

WHITE PAPER



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Common Plants of South-Central Blue Mountains (Malheur National Forest)¹

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INTRODUCTION

In the late 1980s, an administrative study was conducted to determine effects of western spruce budworm defoliation on mixed-conifer forests in south-central Blue Mountains (results were presented in Powell 1994). When study data was being collected during two years of field sampling (1988-89), it was not possible to make a plant association determination for each sample plot because a Blue Mountains plant association classification was being revised during that time (a revised classification was eventually published as Johnson and Clausnitzer 1992).

I consulted with Blue Mountains Area Ecologist Charlie Johnson during the budworm study. He convinced me that if a reasonably complete inventory of understory plant cover was recorded for each sample plot, then I would be able to use a revised classification to make a plant association determination after sampling was complete, without needing to return to plot locations in the field, and before I needed to complete all of the study's data analyses.

To utilize this approach – record canopy coverage data for major plant species on a sample plot, and then use this cover data to make a plant association determination later – it was necessary to record a species code, categorize each species by life form (tree, shrub, herb, etc.), and record a canopy cover value for each plant. To make this process more efficient, I compiled a 'master list' of Malheur National Forest plant species because mixed-conifer sample plots were distributed across all four of the Forest's ranger districts. This white paper presents a compiled list of common plant species associated with forested environments of the Malheur NF (table 1).

¹ White papers are internal reports; they receive only limited review. Viewpoints expressed in this paper are those of the author – they may not represent positions of USDA Forest Service.

Table 1: Common plants of south-central Blue Mountains (Malheur National Forest).

WHO	SCIENTIFIC NAME	CODE	LF	KEY IDENTIFICATION CHARACTERISTICS
FCH	<i>Abies concolor</i>	ABCO	T	Almost identical to ABGR in southern Blue Mountains
FCH	<i>Abies grandis</i>	ABGR	T	2-ranked needles; resin blisters on bark; upright cone
FCH	<i>Abies lasiocarpa</i>	ABLA2	T	Short needles; highest elevations in Blue Mountains
UMA	<i>Acer circinatum</i>	ACCI	TS	Large lvs w/7-9 toothed lobes; straight-line samaras
FCH	<i>Acer glabrum</i>	ACGL	TS	Leaves with 3 to 5 toothed lobes; right-angle samaras
FCH	<i>Achillea millefolium</i>	ACMI	MF	Aromatic; divided, feathery leaves; white, umbel fls
FCH	<i>Aconitum columbianum</i>	ACCO	TF	Palmately-lobed leaves; blue, hooded flowers; riparian
FCH	<i>Actaea rubra</i>	ACRU	MF	3-part, comp, serr leaves; red or white fruits; white fls
FCH	<i>Adenocaulon bicolor</i>	ADBI	LF	Triangular, wavy-edged lvs: green above, gray below
UMA	<i>Agastache urticifolia</i>	AGUR	TF	Whorled serr lvs; square stem; white fls: long stamens
UMA	<i>Agoseris aurantiaca</i>	AGAU	LF	Narrow, sparsely-lobed lvs; orange flowers: tight head
CGJ	<i>Agoseris glauca</i>	AGGL	LF	Lin leaves (occ. pinn); 1 yellow fl; milky sap; meadow
UMA	<i>Agoseris grandiflora</i>	AGGR	MF	Stout; long, winged, pointed leaves; big yellow heads
UMA	<i>Agoseris heterophylla</i>	AGHE	LF	Annual; medium leaves with small lobes; yellow flowers
UMA	<i>Agropyron cristatum</i>	AGCR	BG	Dense, flat, crested spike; flat, lax lvs; seeded areas
UMA	<i>Agropyron intermedium</i>	AGIN	RG	Hairy sheath edges; narrow spike: alt, sess fls; weedy
UMA	<i>Agropyron repens</i>	AGRE	RG	Hairy, twisted leaves; narrow spike: awned, sess fls
FCH	<i>Agropyron spicatum</i>	AGSP	BG	1 spikelet per node; long awns; narrow lvs; dry sites
UMA	<i>Agropyron trichophorum</i>	AGTR2	RG	Like AGIN but with flat (not inrolled) leaves; hairy fls
FCH	<i>Agrostis alba</i>	AGAL	RG	Open or narrow panicle: red fls; narrow lvs; riparian
FCH	<i>Agrostis diegoensis</i>	AGDI	RG	Panicle and flowers purplish; flat, lax leaves; meadow
DCP	<i>Agrostis idahoensis</i>	AGID	BG	Wet sites; tufted, delicate perennial; resembles AGSC
UMA	<i>Agrostis interrupta</i>	AGIN3	BG	Narrow panicle of greenish, awned flowers; introduced
UMA	<i>Agrostis scabra</i>	AGSC	BG	Narrow lvs; very open panicle of tiny fls; open sites
UMA	<i>Aira caryophylla</i>	AICA	BG	Spikelets with 2 fls; short awns; short lvs; moist area
UMA	<i>Alisma plantago-aquatica</i>	ALPL3	MF	Oval, basal lvs; open pan of white-fl'd umbels; marshes
FCH	<i>Allium acuminatum</i>	ALAC	LF	Red, reflexed tepals; dry, open sites; very common
DCP	<i>Allium bisceptrum</i>	ALBI	MF	Rare; scape longer than lvs; pink flowers; meadows
UMA	<i>Allium campanulatum</i>	ALCA	LF	Purple or white fls on long drooping stalks; high elev
CGJ	<i>Allium fibrillum</i>	ALFI	LF	White tepals; scape shorter than leaves; moist sites
CGJ	<i>Allium geyeri</i>	ALGE2	LF	Red tepals that aren't reflexed; narrow, cupped leaves
CGJ	<i>Allium macrum</i>	ALMA	LF	Lvs exceed scape; pink tepals w/green ribs; dry sites
CGJ	<i>Allium madidum</i>	ALMA2	LF	White fls; taller than ALFI; scape exceeds lvs; meadow
FCH	<i>Allium tolmiei</i>	ALTO	LF	Wide leaves; white or cream fls; dry sites and scabs
CGJ	<i>Allium validum</i>	ALVA	MF	Pink fls; stamens exceed tepals; wide lvs; wet sites
FCH	<i>Alnus incana</i>	ALIN	TS	Doubly serrate leaves that are more oval than ALSI's
CGJ	<i>Alnus sinuata</i>	ALSI	TS	Doubly serrate, pointed leaves; brown bark; riparian
UMA	<i>Alopecurus aequalis</i>	ALAE	RG	Long, dense, foxtail spikes; wide leaves; long sheaths
UMA	<i>Alopecurus pratensis</i>	ALPR	RG	Foxtail spikes with exerted awns; introduced species
UMA	<i>Alyssum alyssoides</i>	ALAL	LF	Gray, narrow, alt leaves; white fls; round fruits; weed
FCH	<i>Amelanchier alnifolia</i>	AMAL	MS	Oval leaves (upper half toothed); white fls; red fruits
UMA	<i>Amsinckia retrorsa</i>	AMRE2	MF	Hairy thruout; spat lvs; orange fls in coiled fiddleneck
DCP	<i>Anaphalis margaritacea</i>	ANMA	MF	Disturbed area; white fls like <i>Antennaria</i> ; bicolored lvs
FCH	<i>Anemone oregana</i>	ANOR	LF	Blue & white sepals; smooth, palmately 3-lobed leaves
UMA	<i>Anemone piperi</i>	ANPI	LF	White sepals; hairy, palmately 3-lobed lvs; one fl/stem

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UMA	<i>Angelica arguta</i>	ANAR2	MF	Serrate, pointed lfths; white, 5-petalled fls in umbels
UMA	<i>Antennaria anaphaloides</i>	ANAN	MF	Stout, leafy; white bracts: spot at base; open woods
CGJ	<i>Antennaria argentea</i>	ANAR	MF	White fls; rhizomes; broader leaves than similar ANLU
UMA	<i>Antennaria corymbosa</i>	ANCO2	LF	Spreading; short, oblan leaves; pink fls; like ANRO
FCH	<i>Antennaria dimorpha</i>	ANDI	LF	Low, matted; 1 brown flower per stem; open, dry sites
CGJ	<i>Antennaria luzuloides</i>	ANLU	LF	White or green fls; rhizomes; linear leaves; open area
UMA	<i>Antennaria neglecta</i>	ANNE2	LF	Spatulate lvs-hairy below; leafy stem; brown/white fls
UMA	<i>Antennaria racemosa</i>	ANRA	LF	Large, oval lvs; green or brown fls; cool forested sites
CGJ	<i>Antennaria rosea</i>	ANRO	LF	Pink flowers; basal, oblan, gray-green lvs; dry woods
CGJ	<i>Antennaria stenophylla</i>	ANST	LF	White or brown fls; linear, silky lvs; PIPO/PSME types
UMA	<i>Antennaria umbrinella</i>	ANUM	LF	Low; brown or white bracts; like ANRO in growth habit
FCH	<i>Apocynum androsaemifolium</i>	APAN	MF	Forked stem; opposite, oval leaves; pink, bell flowers
FCH	<i>Aquilegia formosa</i>	AQFO	MF	Red & yellow fls; compound lvs; resembles <i>Thalictrum</i>
UMA	<i>Arabis cusickii</i>	ARCU	LF	Hairy thruout; linear leaves; pink fls; erect siliques
UMA	<i>Arabis divaricarpa</i>	ARDI3	MF	Hairy stems; spat lvs; pink fls; erect, linear siliques
UMA	<i>Arabis drummondii</i>	ARDR2	MF	Not hairy; sess, winged, stem lvs; white fls; erect sil
UMA	<i>Arabis glabra</i>	ARGL	MF	Trian, sessile, winged stem leaves; white fls; erect sil
UMA	<i>Arabis hirsuta</i>	ARHI	TF	Hairy stems; trian, sess, winged stem leaves; white fls
UMA	<i>Arabis holboellii</i>	ARHO	MF	Narrow, involute, sess, winged stem lvs; drooping sil
CGJ	<i>Arabis sparsiflora</i>	ARSP2	MF	Pink, 4-petalled flowers; toothed leaves; drooping sil
UMA	<i>Arctium minus</i>	ARMI3	TF	Oval, toothed leaves; burrlike fruits from axils; weedy
FCH	<i>Arctostaphylos nevadensis</i>	ARNE	LS	Pointed lvs; red stems; higher elevations than ARUV
FCH	<i>Arctostaphylos uva-ursi</i>	ARUV	LS	Rounded or notched leaves; brown stems; dryer sites
UMA	<i>Arenaria aculeata</i>	ARAC2	LF	Linear, rigid, prickly leaves; white lobed fls; high elev
CGJ	<i>Arenaria congesta</i>	ARCO2	LF	Long, linear lvs; white, 5-petalled fls; high, open sites
FCH	<i>Arenaria macrophylla</i>	ARMA3	LF	Opp lan lvs; 5 white petals; pointed sepals; ABCO zone
UMA	<i>Arenaria rubella</i>	ARRU	LF	Dense mat of short, linear leaves; white fls; high elev
UMA	<i>Arnica amplexicaulis</i>	ARAM	MF	Opp, spat, serrate leaves; pale yellow fls; moist sites
UMA	<i>Arnica chamissonis</i>	ARCH	MF	Opp, spat, entire lvs; about 13 pale rays; moist sites
FCH	<i>Arnica cordifolia</i>	ARCO	LF	Opposite, petiolate stem leaves; usually 1 fl per stalk
FCH	<i>Arnica latifolia</i>	ARLA	LF	Opposite, sessile stem lvs; multiple flowers per stalk
CGJ	<i>Arnica longifolia</i>	ARLO	MF	Long, narrow, opp lvs; short rays; spreading; seeps
CGJ	<i>Arnica mollis</i>	ARMO	MF	3-4 pairs of hairy, opposite, oval leaves; moist sites
UMA	<i>Arnica parryi</i>	ARPA3	MF	2-4 sets of lan, long-petioled lvs; rayless; open sites
UMA	<i>Arnica sororia</i>	ARSO	MF	Spat basal lvs; short, opposite stem lvs; toothed rays
UMA	<i>Arrhenatherum elatius</i>	AREL	BG	Tall; narrow pan of loose, awned fls; meadows; weedy
FCH	<i>Artemisia arbuscula</i>	ARAR	LS	Short, gray; 3-lobed leaf tips; woolly twigs; scablands
CGJ	<i>Artemisia cana</i>	ARCA	MS	Entire or 1 to 2 toothed, white-hairy leaves; dry sites
CGJ	<i>Artemisia ludoviciana</i>	ARLU	LF	Entire or lobed lvs; white, cobwebby hairs; dry sites
UMA	<i>Artemisia nova</i>	ARNO2	LS	Like ARAR; hairless spike of 3-5 green-yellow flowers
FCH	<i>Artemisia rigida</i>	ARRI	LS	Linear, dissected leaf lobes; woolly twigs & lvs; scabs
CGJ	<i>Artemisia tilesii</i>	ARTI	MF	Sharply-pointed leaf lobes; axillary pan of loose fls
FCH	<i>Artemisia tridentata</i>	ARTR	MS	Aromatic, hairy, shallowly 3-lobed lvs; windy ridges
UMA	<i>Artemisia tripartita</i>	ARTR2	MS	Like ARTR, but with deeply-lobed lvs and narrower pan
UMA	<i>Aruncus vulgaris</i>	ARVU	TF	Compound leaves with oval, serrate leaflets; wet sites
FCH	<i>Asarum caudatum</i>	ASCA3	LF	Cordate lvs; brown, axillary fls: 3 sepals; ginger scent
CGJ	<i>Asclepias speciosa</i>	ASSP	MF	Pink fls; opposite, oval leaves; milky sap; large pods

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CGJ	<i>Aspidotis densa</i>	ASDE	F	Short; linear leaf divisions; among rocks on dry sites
UMA	<i>Aster chilensis</i>	ASCH	MF	Long, narrow, hairy lvs; blue or pink rays; open sites
FCH	<i>Aster conspicuus</i>	ASCO	MF	Oval, sessile, toothed leaves; blue rays; sticky heads
CGJ	<i>Aster foliaceus</i>	ASFO	MF	Clasping, oblanceolate leaves; pinkish rays; wet sites
UMA	<i>Aster integrifolius</i>	ASIN	LF	Big, oblan, basal lvs; short, alt, stem lvs; purple rays
UMA	<i>Aster occidentalis</i>	ASOC	MF	Alt, oblan lvs; blue/purple rays; meadows or openings
UMA	<i>Astragalus canadensis</i>	ASCA7	MF	Dense spike of white fls; 13-29 oval lfts; silvery leaves
CGJ	<i>Astragalus collinus</i>	ASCO2	LF	Decumbent; 11-21 leaflets; white or tan fls; dry sites
UMA	<i>Astragalus diaphanus</i>	ASDI	LF	Flat; 9-13 obovate leaflets; white/pink fls; curved pods
UMA	<i>Astragalus filipes</i>	ASFI	MF	9-25 hairy, oblan lfts; loose pan; creamy fls; dry sites
UMA	<i>Astragalus lentiginosus</i>	ASLE	LF	Flat; 11-19 obovate lfts; white or pink fls at stem end
UMA	<i>Astragalus purshii</i>	ASPU	LF	7 to 19 round, whitish lfts; hairy, purple fls; dry sites
UMA	<i>Astragalus reventiformis</i>	ASRE2	LF	17-37 oval lfts; white fls; purple keel tip; uncommon
FCH	<i>Astragalus reventus</i>	ASRE	LF	13 to 31 narrow leaflets; purplish fls; northern Blues
DCP	<i>Astragalus tegetarioides</i>	ASTE	LF	Rare; 7-11 oval, hairy lfts; tiny white fls; PIPO forests
CGJ	<i>Astragalus whitneyi</i>	ASWH	LF	Large, plum-like pods; 11 to 17 leaflets; purplish fls
FCH	<i>Athyrium filix-femina</i>	ATFI	F	Tall; blades taper at both ends; wet, riparian sites
UMA	<i>Athysanus pusillus</i>	ATPU	MF	Hairy annual; oval lobed lvs; hanging hairy frts; weed
UMA	<i>Balsamorhiza careyana</i>	BACA	MF	Like BASA except that lf bases aren't deeply indented
CGJ	<i>Balsamorhiza hirsuta</i>	BAHI	LF	Pinnatifid leaves with narrow segments; narrower rays
CGJ	<i>Balsamorhiza hookeri</i>	BAHO	LF	Pinnatifid leaves with wider segments; wider rays
CGJ	<i>Balsamorhiza incana</i>	BAIN	MF	Divided lvs: very wide segments; low-elev meadows
FCH	<i>Balsamorhiza sagittata</i>	BASA	LF	Hairy, triangular, smooth-margined leaves; yellow rays
FCH	<i>Balsamorhiza serrata</i>	BASE	LF	Triangular, serrate leaves; scabs with shallow soils
UMA	<i>Barbarea orthoceras</i>	BAOR	MF	Pinn lvs: big end lobe; yellow 4-petal fls; moist area
UMA	<i>Berberis aquifolium</i>	BEAQ	LS	5 to 9 leaflets; long spines on leaflet margins; shiny
CGJ	<i>Berberis nervosa</i>	BENE	LS	9 to 19 leaflets; long spines on leaflet margin; shiny
FCH	<i>Berberis repens</i>	BERE	LS	5 to 7 leaflets; short spines on leaflet margins; dull
CGJ	<i>Besseyia rubra</i>	BERU	MF	Crenate, triangular lvs; dense flower spike; meadows
CGJ	<i>Betula glandulosa</i>	BEGl	MS	Bog shrub; crenate lvs; catkins; glandular branches
UMA	<i>Betula occidentalis</i>	BEOC	T	Oval, twice-serr lvs; gland branches; red bark; riparian
CGJ	<i>Blepharipappus scaber</i>	BLSC	LF	Annual; linear leaves; tri-cleft, white rays; meadows
UMA	<i>Boisduvalia densiflora</i>	BODE	MF	Hairy annual; lan lvs; 4 notched pink petals; riparian
UMA	<i>Boisduvalia stricta</i>	BOST	LF	Hairy annual; narrow, gray leaves; small pink flowers
UMA	<i>Botrychium lunaria</i>	BOLU	F	Short; pinnate blades with rounded lobes; wet sites
UMA	<i>Botrychium virginianum</i>	BOVI	F	Low; blades--sterile: thin and deltoid, fertile: spikes
CGJ	<i>Brodiaea douglasii</i>	BRDO	MF	Blue, tubular corollas; <i>Iris</i> -like leaves; open areas
UMA	<i>Brodiaea hyacinthina</i>	BRHY	MF	Narrower leaves than BRDO; flowers white to light blue
FCH	<i>Bromus brizaeformis</i>	BRBR	BG	Annual; awnless; plump, drooping spikelets; dry sites
FCH	<i>Bromus carinatus</i>	BRCA	BG	Tall; upright panicle; short awns; dry or mesic sites
UMA	<i>Bromus ciliatus</i>	BRCI	BG	Tall; hairy; lax lvs; drooping, awned fls; moist areas
UMA	<i>Bromus commutatus</i>	BRCO	BG	Tall annual; hairy lvs; open panicle of long-awned fls
UMA	<i>Bromus erectus</i>	BRER	BG	Tall; narrow lvs; narrow, erect panicle: awned flowers
DCP	<i>Bromus inermis</i>	BRIN	RG	Tall; upright panicle of purple, awned flowers; weedy
UMA	<i>Bromus mollis</i>	BRMO	BG	Tall annual; hairy lvs; narrow, erect pan of awned fls
UMA	<i>Bromus rigidus</i>	BRRl	BG	Tall annual; hairy lvs; erect panicle; very long awns
UMA	<i>Bromus suksdorfii</i>	BRSU	BG	Tall; smooth, wide lvs; narrow, erect pan; short awns

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FCH	<i>Bromus tectorum</i>	BRTE	BG	Short; weedy; drooping, purplish flowers: long awns
FCH	<i>Bromus vulgaris</i>	BRVU	BG	Tall; drooping panicle & lvs; short awns; moist sites
UMA	<i>Calamagrostis inexpansa</i>	CAIN	RG	Rough stems; narrow panicle; purple fls: short awns
UMA	<i>Calamagrostis purpurascens</i>	CAPU	BG	Dense purple panicle; short awns; rough, stiff leaves
FCH	<i>Calamagrostis rubescens</i>	CARU	RG	Abundant; white hairs at leaf collar; red stem bases
CGJ	<i>Calochortus elegans</i>	CAEL	LF	Leaf longer than flower stem; greenish fls; open sites
DCP	<i>Calochortus eurycarpus</i>	CAEU2	LF	Round purple petal spot; short clasping lvs; dry sites
CGJ	<i>Calochortus macrocarpus</i>	CAMA	MF	Sepals exceed petals; green petal stripes; dry sites
UMA	<i>Calochortus tolmiei</i>	CATO	LF	Very hairy white petals; wide bas leaf exceeds fl stem
FCH	<i>Caltha biflora</i>	CABI	LF	Round, wavy-edged lvs; 2 white fls per stem; wet sites
UMA	<i>Calypso bulbosa</i>	CABU2	OR	One leaf; red fl with white & yellow lip; blooms early
FCH	<i>Camassia quamash</i>	CAQU	MF	Blue, 6-petalled flowers; bulb; <i>Iris</i> -like lvs; meadows
UMA	<i>Camelina microcarpa</i>	CAMI3	MF	Hairy stem & lvs; white 4-petalled fls; siliques; weed
FCH	<i>Campanula scouleri</i>	CASC2	LF	Serrate, oval lvs; blue, 5-petalled fls; low elevations
UMA	<i>Capsella bursa-pastoris</i>	CABU	LF	Pinnate lvs w/wide lobes; white, 4-petalled fls; weedy
UMA	<i>Cardamine breweri</i>	CABR2	MF	Comp lvs w/sinuate or lobed lfts; white fls; erect sil
UMA	<i>Cardamine cordifolia</i>	CACO2	TF	Cordate basal lvs; trian stem lvs; white, 4-petalled fls
UMA	<i>Cardamine oligosperma</i>	CAOL	LF	Pinn lvs: 3 to 5 pairs of side lfts; big term lft; riparian
CGJ	<i>Carex aquatilis</i>	CAAQ	GL	Tall, robust; black or brown spikes; riparian sites only
UMA	<i>Carex aurea</i>	CAAU	GL	Creeping; long, tight panicle of plump, bicolored fls
FCH	<i>Carex concinnoides</i>	CACO	GL	Short, wide leaves with deep center pleat; moist sites
UMA	<i>Carex filifolia</i>	CAFI	GL	Bunchy; slender, wiry stems & leaves; small fl spikes
FCH	<i>Carex geyeri</i>	CAGE	GL	Cigar-like flower spikes; brown leaf tips; abundant!
FCH	<i>Carex hoodii</i>	CAHO	GL	Ball-shaped inflorescence; wet or very moist sites
UMA	<i>Carex illota</i>	CAIL	GL	Creeping; mostly basal narrow lvs; oval spike clusters
UMA	<i>Carex microptera</i>	CAMI	GL	Bunchy; medium wide lvs; oval fl clusters at stem tips
CGJ	<i>Carex muricata</i>	CAMU2	GL	In bogs; bractlike spikes near stem tips; tufted stems
UMA	<i>Carex nebraskensis</i>	CANE	GL	Tall; rough blue-green lvs; long plump spike; riparian
UMA	<i>Carex nigricans</i>	CANI2	GL	Creeping; mostly basal, firm leaves; fls at tip; riparian
CGJ	<i>Carex pachystachya</i>	CAPA	GL	Dense clusters of dark, brown flowers; dry sites
FCH	<i>Carex rossii</i>	CARO	GL	Red leaf bases; culms of varying heights; dry sites
UMA	<i>Carex rostrata</i>	CARO2	GL	Knobby leaf insides; separated spikes: female below
CGJ	<i>Castilleja chromosa</i>	CACH2	LF	Red bracts; hairy thruout; dry, low-elevation sites
UMA	<i>Castilleja cusickii</i>	CACU3	MF	Lobed yellow bracts; hairy lan lvs; mountain meadow
UMA	<i>Castilleja flava</i>	CAFL2	LF	Lobed yellow bracts; hairy, lan or lobed lvs; dry area
CGJ	<i>Castilleja glandulifera</i>	CAGL	LF	Greenish-yellow bracts; hairy/sticky thruout; dry sites
CGJ	<i>Castilleja hispida</i>	CAHI2	MF	Narrow lan leaves; broad, lobed red bracts; open sites
UMA	<i>Castilleja inverta</i>	CAIN7	LF	Short; purple stems and bracts; linear or lobed leaves
UMA	<i>Castilleja levisecta</i>	CALE7	LF	Hairy; curved stems; lobed leaf tips; yellowish bracts
CGJ	<i>Castilleja linariaefolia</i>	CALI2	MF	Narrow, V-shaped lvs; red bracts; red or purple stems
CGJ	<i>Castilleja miniata</i>	CAMI2	MF	Red bracts; hairy, linear lvs; common forest species
CGJ	<i>Castilleja rustica</i>	CARU5	LF	Yellow bracts; linear or lobed leaves; dry sites
UMA	<i>Ceanothus sanguineus</i>	CESA	MS	Oval, 3-veined, serrate leaves; white fls; red stems
FCH	<i>Ceanothus velutinus</i>	CEVE	MS	Shiny, 3-veined, serrate lvs; green stems; old burns
UMA	<i>Centaurea cyanus</i>	CECY	MF	Long, linear, whitish lvs; blue, cornflower fls; weedy
UMA	<i>Centaurea diffusa</i>	CEDI	MF	Pinn leaves: reduced upward; spiny heads; cream fls
UMA	<i>Centaurea maculosa</i>	CEMA	MF	Pinn lvs: narrow, linear lobes; pink "thistle" fls; weedy

WHO	SCIENTIFIC NAME	CODE	LF	KEY IDENTIFICATION CHARACTERISTICS
UMA	<i>Cerastium arvense</i>	CEAR	LF	Hairy; 5 white, lobed petals; opp lvs; axillary shoots
UMA	<i>Cerastium nutans</i>	CENU	LF	Hairy annual; opp, spat leaves; white fls; open sites
FCH	<i>Cercocarpus ledifolius</i>	CELE	TS	Leathery, out-rolled leaves; plumed fruits; dry sites
UMA	<i>Chaenactis douglasii</i>	CHDO	LF	Deeply-divided gray lvs; white disk fls only; dry areas
FCH	<i>Chamaecyparis nootkatensis</i>	CHNO	T	In one drainage on Bear Valley RD; scale-like leaves
UMA	<i>Cheilanthes gracillima</i>	CHGR	F	Slender blade; oval pinnae: rusty below; crevice sites
FCH	<i>Chimaphila menziesii</i>	CHME	LF	1 to 3 flowers; wider leaves and shorter than CHUM
FCH	<i>Chimaphila umbellata</i>	CHUM	LF	5 to 15 fls; shiny, whorled leaves; taller than CHME
DCP	<i>Chrysanthemum leucanthemum</i>	CHLE2	MF	Wide, white rays; lobed, alt leaves; disturbed sites
FCH	<i>Chrysothamnus nauseosus</i>	CHNA	MS	Narrow, aromatic, gray lvs; usually at low elevations
FCH	<i>Chrysothamnus viscidiflorus</i>	CHVI	LS	Green twisted lvs; sticky at lf bases; high elevations
UMA	<i>Cicuta douglasii</i>	CIDO	TF	Lft veins end between teeth; white fl umbels; riparian
UMA	<i>Circaea alpina</i>	CIAL	LF	Oval, opp, serr lvs; 2 white, bilobed petals; barbed frt
CGJ	<i>Cirsium arvense</i>	CIAR	TF	Shallowly-lobed lvs; purple or blue fls; disturbed area
UMA	<i>Cirsium canovirens</i>	CICA2	MF	Pinn lvs to medium depth; spiny tips; yellow fls; weed
UMA	<i>Cirsium scariosum</i>	CISC	MF	Shallowly-pinn, fringed leaves; white fls; moist sites
UMA	<i>Cirsium utahense</i>	CIUT	MF	Deeply-pinn, gray leaves; white or pink fls; dry sites
FCH	<i>Cirsium vulgare</i>	CIVU	TF	Winged, deeply-pinn lvs; purple/blue flowers; weedy
FCH	<i>Clarkia pulchella</i>	CLPU	LF	Annual; narrow, linear leaves; 3-lobed, purple flowers
CGJ	<i>Clarkia rhomboidea</i>	CLRH	MF	Annual; oval, opposite leaves; purple, unlobed flowers
CGJ	<i>Claytonia lanceolata</i>	CLLA	LF	Thick, oval leaves; raceme of 5-petalled, pink flowers
UMA	<i>Clematis hirsutissima</i>	CLHI	LF	Hairy pinn leaves: lin lobes; 1 hairy purple fl; dry site
CGJ	<i>Clematis ligusticifolia</i>	CLLI	TF	Climbing vine; white flowers; plumed frts; moist sites
FCH	<i>Clintonia uniflora</i>	CLUN	LF	Basal, fleshy leaves; white, 6-petalled fls; blue fruits
UMA	<i>Collinsia grandiflora</i>	COGR	LF	More erect than COPA; blue fls from upper axils only
DCP	<i>Collinsia parviflora</i>	COPA	LF	Delicate weed in logged area; tiny blue fls from axils
CGJ	<i>Collomia debilis</i>	CODE	LF	Spreading, oblan leaves; blue, 5-petal fls; high elevs
FCH	<i>Collomia grandiflora</i>	COGR2	MF	Alternate, lan leaves; orange, 5-petalled, tubular fls
UMA	<i>Collomia linearis</i>	COLI2	MF	Hairy, lan lvs; pink/blue tub fls; open sites; common
UMA	<i>Collomia tinctoria</i>	COTI	LF	Hairy, branched annual; pink flowers; dry, rocky sites
UMA	<i>Convolvulus arvensis</i>	COAR2	LF	Trailing; triangular leaves; white, tubular fls; bindweed
UMA	<i>Conyza canadensis</i>	COCA2	MF	Hairy annual; narrow, alt leaves; small fls on axil infl
DCP	<i>Corallorhiza maculata</i>	COMA3	OR	Red-brown or yellow stems; white lip with purple spots
UMA	<i>Corallorhiza mertensiana</i>	COME	OR	Reddish stems; red or brown flowers with purple lip
UMA	<i>Corallorhiza striata</i>	COST2	OR	Purple stems; pink flowers with 3-5 red-brown stripes
CGJ	<i>Corallorhiza trifida</i>	COTR	OR	Slender, yellow stem; 3 to 15, yellow or white flowers
CGJ	<i>Cordylanthus capitatus</i>	COCA4	MF	Lin, hairy leaves; purple flowers; resembles <i>Castilleja</i>
FCH	<i>Cornus canadensis</i>	COCA	LF	Whorled, veined leaves; white, 4-bract fls; red fruits
FCH	<i>Cornus stolonifera</i>	COST	MS	Opp, veined leaves; young stems red; white fls & frts
FCH	<i>Crataegus douglasii</i>	CRDO	TS	Thorns; doubly-toothed lvs; white flowers; black fruits
CGJ	<i>Crepis acuminata</i>	CRAC	MF	Deeply-lobed, long-pointed lvs; yellow fls; dry sites
UMA	<i>Crepis atrabarba</i>	CRAT	MF	Deeply-pinn lvs w/narrow lobes; yellow fls; dry sites
UMA	<i>Crepis intermedia</i>	CRIN	MF	Deeply-lobed, hairy lvs; yellow fls; dry, low-elev sites
CGJ	<i>Crepis occidentalis</i>	CROC	LF	Leaf lobes shallower than CRAC; dry, low-elev sites
UMA	<i>Cryptantha ambigua</i>	CRAM	LF	Hairy annual; linear leaves; white fls in coils; nutlets
UMA	<i>Cryptantha intermedia</i>	CRIN2	LF	Hairy annual; spat leaves; white fls in coiled spikes
UMA	<i>Cryptantha rostellata</i>	CRRO	LF	Slender annual; linear, hairy lvs: lower ones opposite

WHO	SCIENTIFIC NAME	CODE	LF	KEY IDENTIFICATION CHARACTERISTICS
UMA	<i>Cryptantha torreyana</i>	CRTO	LF	Hairy annual with linear leaves; dry mountain slopes
UMA	<i>Cryptogramma crista</i>	CRCR	F	Oval pinnae lobes with toothed edges; crevices/talus
CGJ	<i>Cymopterus bipinnatus</i>	CYBI	LF	Basal, divided, tufted leaves; white, umbel fls; taproot
UMA	<i>Cymopterus terebinthinus</i>	CYTE	LF	Wide, pinn lvs w/tiny segments; yellow fls; dry sites
UMA	<i>Cynoglossum officinale</i>	CYOF	MF	Hairy, lan leaves; red fls in curved infl; barbed fruits
DCP	<i>Cypripedium calceolus</i>	CYCAP	OR	Very rare; wide, clasping leaves; large, yellow lips
DCP	<i>Cypripedium montanum</i>	CYMO	OR	Uncommon; white lip with purple streaks; wide leaves
FCH	<i>Cystopteris fragilis</i>	CYFR	F	Small; deep pinnae lobes; on ledges or moist outcrops
FCH	<i>Dactylis glomerata</i>	DAGL	BG	Tall; dense, tufted, flower spikelets; disturbed sites
UMA	<i>Danthonia californica</i>	DACA	BG	Tall; hairy leaf collar; open pan; awned fls; wide lvs
DCP	<i>Danthonia intermedia</i>	DAIN	BG	Hairy lf collar; narrow panicle; awned fls; narrow lvs
UMA	<i>Danthonia spicata</i>	DASP	BG	Curled lvs; hairy leaf collar; short, narrow pan; awns
FCH	<i>Danthonia unispicata</i>	DAUN	BG	Short; hairy sheaths; 1 spikelet; awned fls; dry sites
CGJ	<i>Delphinium burkei</i>	DEBU	MF	Gray lvs--basal: lobed, stem: divided; low-elev swales
FCH	<i>Delphinium depauperatum</i>	DEDE	MF	Divided lvs: lobed segment; glandular stem; mesic site
CGJ	<i>Delphinium nuttallianum</i>	DENU	LF	Divided lvs: lin segments; hairy thruout; PIPO forests
UMA	<i>Delphinium occidentale</i>	DEOC	TF	Divided lvs: wide segments; blue/white fls; moist site
UMA	<i>Deschampsia caespitosa</i>	DECA	BG	Firm narrow lvs; open pan; small awned fls; meadows
UMA	<i>Deschampsia danthonioides</i>	DEDA	BG	Short lvs; erect pan; short, divergent awns; dry sites
UMA	<i>Descurainia pinnata</i>	DEPI	MF	Divided, fernlike lvs; yellow flowers: long infl; oval sil
UMA	<i>Descurainia richardsonii</i>	DERI	MF	Pinn, fernlike leaves; yellow fls; long straplike siliques
UMA	<i>Dianthus armeria</i>	DIAR	MF	Opp, clasping, lan lvs; pink fls in dense cymes; weedy
FCH	<i>Dicentra formosa</i>	DIFO	LF	Comp lvs-linear segments; plump purple fls; moist area
UMA	<i>Dipsacus sylvestris</i>	DISY	TF	Prickly stem; oval heads: upcurved bracts; teasel weed
FCH	<i>Disporum trachycarpum</i>	DITR	MF	Wide, veiny lvs; 2 white, bell fls at stem tip; red fruits
UMA	<i>Dodecatheon conjugens</i>	DOCO	LF	Basal, spat lvs; purple/yellow fls; seeps, moist sites
UMA	<i>Dodecatheon jeffreyi</i>	DOJE	LF	Large, basal, oblan lvs; purple/yellow fls; high elev
CGJ	<i>Dodecatheon pauciflorum</i>	DOPA	LF	Basal, spatulate leaves; purple/yellow fls; wet sites
CGJ	<i>Draba crassifolia</i>	DRCR	LF	Basal, spatulate leaves; yellow fls; lan sil; high elev
UMA	<i>Draba verna</i>	DRVE2	LF	Basal, oblan lvs w/few teeth; white fls; dry, low sites
CGJ	<i>Dryopteris filix-mas</i>	DRFE	F	Rare; bipinnate -- biggest pinnae at middle of blade
CGJ	<i>Eburophyton austinae</i>	EBAU	OR	White stem and white flowers; moist, shaded forests
UMA	<i>Eleocharis acicularis</i>	ELAC	GL	Short, creeping; short spike at stem tips; wet sites
UMA	<i>Eleocharis palustris</i>	ELPA	GL	Tall, creeping; short spike at stem tips; wet sites
UMA	<i>Elymus cineris</i>	ELCI	RG	Big; tough, wide lvs; sessile fls; long pan; moist sites
FCH	<i>Elymus glaucus</i>	ELGL	BG	Dense spike of long-awned fls (2 per node); rough lvs
UMA	<i>Epilobium alpinum</i>	EPAL	LF	Opp, oval lvs; white/pink, 4-petal fls; high, wet sites
FCH	<i>Epilobium angustifolium</i>	EPAN	MF	Disturbed sites; pink flowers; narrow, alternate leaves
UMA	<i>Epilobium glaberrimum</i>	EPGL	LF	Opp, oblong lvs; 4 pink notched petals; high, wet site
UMA	<i>Epilobium glandulosum</i>	EPGL2	MF	Opp, ovate lvs; pink fls on axillary shoots; moist sites
UMA	<i>Epilobium minutum</i>	EPMI	LF	Opp, lan leaves w/petioles; small white fls; dryer sites
CGJ	<i>Epilobium obcordatum</i>	EPOB	LF	Opp, oval leaves; creeping; red fls; high, wet sites
UMA	<i>Epilobium palustre</i>	EPPA2	LF	Opp, lan, sessile lvs; white/pink fls; wet, boggy sites
UMA	<i>Epilobium paniculatum</i>	EPPA	MF	Annual; alt, linear lvs; pink, bilobed fls; PIPO forests
FCH	<i>Equisetum arvense</i>	EQAR	LF	Green, jointed stems; whorled leaves; brown fl shoots
UMA	<i>Equisetum hyemale</i>	EQHY	MF	Creeping; unbranched greenish stems; no side shoots
UMA	<i>Equisetum laevigatum</i>	EQLA	MF	Similar to EQHY, but not as robust or thick-stemmed

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FCH	<i>Erigeron bloomeri</i>	ERBL	LF	Linear, hairy, basal leaves; no rays; scablands
CGJ	<i>Erigeron chrysopsidis</i>	ERCH	LF	Yellow rays; narrow, basal lvs; dark bracts; dry sites
CGJ	<i>Erigeron compositus</i>	ERCO	LF	Hairy, 3-part, lobed lvs; blue or white rays; dry sites
CGJ	<i>Erigeron corymbosus</i>	ERCO3	LF	Lan, acute lvs; purple stem base; blue rays; dry sites
FCH	<i>Erigeron eatonii</i>	EREA	LF	Short, lan, 3-nerved leaves; white rays; open sites
UMA	<i>Erigeron filifolius</i>	ERFI	LF	Very narrow, linear lvs; blue/pink rays; dry, low sites
UMA	<i>Erigeron linearis</i>	ERLI	LF	Very narrow, linear lvs; yellow rays; dry, rocky sites
UMA	<i>Erigeron lonchophyllus</i>	ERLO	LF	Spat lvs w/long petioles; white rays/rayless; meadows
UMA	<i>Erigeron peregrinus</i>	ERPE	MF	Smooth, oblanceolate to oval lvs; rose rays; wet sites
UMA	<i>Erigeron philadelphicus</i>	ERPH	MF	Spat or oblong lvs w/toothed edges; pink or white rays
FCH	<i>Erigeron piperianus</i>	ERPI2	LF	Short, narrow, linear lvs; yellow rays; dry, low sites
UMA	<i>Erigeron pumilus</i>	ERPU	LF	Hairy, lan lvs; white/blue rays; hairy stem; dry sites
CGJ	<i>Erigeron speciosus</i>	ERSP	MF	Tall; blue rays; alternate, clasping leaves; mesic sites
UMA	<i>Erigeron tener</i>	ERTE	LF	Spat, long-petioled lvs; blue/purple rays; rocky sites
CGJ	<i>Eriogonum compositum</i>	ERCO5	LF	Triangular, hairy leaves; white flowers; open sites
CGJ	<i>Eriogonum douglasii</i>	ERDO	LF	Yellow, ball fls; narrow leaves; leaf whorl at mid stem
CGJ	<i>Eriogonum elatum</i>	EREL2	LF	Long-petioled, trian leaves; open cluster of white fls
CGJ	<i>Eriogonum flavum</i>	ERFL	LF	Yellow ball flowers; leaf whorl just below fls; high elev
FCH	<i>Eriogonum heracleoides</i>	ERHE	MF	Tall; white or yellow ball fls in umbels; PIPO forests
CGJ	<i>Eriogonum microthecum</i>	ERMI	LF	Leafy fl stem; inrolled lvs; white fls: branched umbel
UMA	<i>Eriogonum niveum</i>	ERNI	LF	Oval, gray, long-petioled lvs; cream fls; PIPO forests
CGJ	<i>Eriogonum ovalifolium</i>	EROV	LF	Basal, oval leaves; leafless flower stem; white flowers
CGJ	<i>Eriogonum sphaerocephalum</i>	ERSP3	LF	Whorled stem lvs; spat basal lvs; yellow, ball flowers
CGJ	<i>Eriogonum strictum</i>	ERST2	LF	Oval, long-petioled lvs; open, white fls; PIPO forests
FCH	<i>Eriogonum umbellatum</i>	ERUM	LF	Yellow/white ball fls; long-petioled lvs: white below
UMA	<i>Eriogonum vimineum</i>	ERV1	LF	Round, basal lvs: wavy edges; no stem lvs; white fls
FCH	<i>Eriophyllum lanatum</i>	ERLA	LF	Clumpy; wide yellow rays; divided or entire leaves
UMA	<i>Erodium cicutarium</i>	ERCI	LF	Pinn, fernlike leaves; red stems; pink flowers; dry sites
UMA	<i>Erysimum asperum</i>	ERAS	MF	Narrow, alt leaves; yellow, 4-petalled fls; dry sites
CGJ	<i>Erysimum occidentale</i>	EROC	MF	Long, narrow, entire lvs; yellow, 4-petalled flowers
UMA	<i>Erysimum repandum</i>	ERRE	LF	Lan leaves w/toothed edges; yellow fls; dry, low sites
FCH	<i>Erythronium grandiflorum</i>	ERGR	LF	Early-blooming lily; yellow fls; 2 basal, fleshy leaves
CGJ	<i>Eupatorium occidentale</i>	EUOC	MF	Tall clump; toothed, triangular leaves; pink, tubular fls
UMA	<i>Euphorbia glyptosperma</i>	EUGL	LF	Prostrate spurge; opp, oblong leaves with toothed tips
FCH	<i>Festuca idahoensis</i>	FEID	BG	Tight, upright panicle; awned fls; rough, inrolled lvs
UMA	<i>Festuca megalura</i>	FEME	BG	Annual weed; inrolled, erect lvs; sess fls; long awns
UMA	<i>Festuca microstachys</i>	FEMI	BG	Annual weed; inrolled, erect lvs; open pan; long awns
FCH	<i>Festuca occidentalis</i>	FEOC	BG	Drooping, awned fls; basal, inrolled lvs; moist sites
UMA	<i>Festuca octoflora</i>	FEOC2	BG	Annual weed; long inrolled lvs; narrow pan; short awns
UMA	<i>Festuca ovina</i>	FEOV	BG	Basal inrolled lvs; narrow pan; short awns; common
UMA	<i>Festuca rubra</i>	FERU	RG	Long, inrolled lvs; tight panicle; red fls; short awns
UMA	<i>Festuca scabrella</i>	FESC	BG	Stiff erect lvs; thick culms; open, erect pan; no awns
UMA	<i>Floerkea proserpinacoides</i>	FLPR	LF	Spreading annual; oval leaflets; white fls; wet sites
FCH	<i>Fragaria vesca</i>	FRVE	LF	Lime-green lvs: no gunsight at leaflet tip; moist sites
FCH	<i>Fragaria virginiana</i>	FRVI	LF	Blue-green leaves: gunsight at leaflet tip; dryer sites
CGJ	<i>Frasera albicaulis</i>	FRAL2	MF	Long, opposite, spatulate leaves; blue, 4-lobed fls
FCH	<i>Frasera speciosa</i>	FRSP	TF	To 6 feet tall; 4-lobed, green flowers; whorled leaves

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CGJ	<i>Fritillaria atropurpurea</i>	FRAT	LF	Brown, mottled, hanging flowers; linear lvs; meadow
CGJ	<i>Fritillaria pudica</i>	FRPU	LF	2 opposite lvs; 1-3 hanging, yellow fls; early bloomer
UMA	<i>Gaillardia aristata</i>	GAAR	MF	Yellow rays; red disk fls; hairy wavy-edge lvs; meadow
UMA	<i>Galium aparine</i>	GAAP	LF	Climbing, annual weed; 6-8 lvs/whorl; small, green fls
UMA	<i>Galium aspernum</i>	GAAS	LF	4-6 medium lvs per whorl; small white fls; mesic sites
UMA	<i>Galium bifolium</i>	GABI	LF	Slender annual; 4 lvs per whorl; white fls; moist sites
CGJ	<i>Galium boreale</i>	GABO	LF	4 lvs/whorl; white fl bunches; square stem; mesic site
UMA	<i>Galium multiflorum</i>	GAMU	LF	4 leaves/whorl; green/yellow fls; hairy fruits; dry sites
DCP	<i>Galium triflorum</i>	GATR	MF	6 aromatic leaves per whorl; white flowers; wet sites
UMA	<i>Gaultheria humifusa</i>	GAHU	LS	Short smooth stems w/oval lvs; subalpine-alpine zones
UMA	<i>Gaultheria ovatifolia</i>	GAOV	LS	Oval, shiny lvs; white bell fls; red frt; moderate elevs
UMA	<i>Gayophytum diffusum</i>	GADI	LF	Hairy ann; lin lvs; much branched; white fls; dry sites
UMA	<i>Gayophytum ramosissimum</i>	GARA	LF	Smooth annual; linear lvs; much branched; dry sites
CGJ	<i>Gentiana affinis</i>	GEAF	LF	Opposite, oval leaves; blue tubular fls; moist meadows
UMA	<i>Gentiana amarella</i>	GEAM	LF	Axillary rose fls with hairy centers; oval, opp leaves
UMA	<i>Gentiana oregana</i>	GEOR2	LF	Similar to closely related GEAF, but with broader lvs
UMA	<i>Gentiana simplex</i>	GESI	LF	Annual; opp, oblong lvs; 1 blue fl; high bogs/meadows
FCH	<i>Geranium viscosissimum</i>	GEVI	MF	Sticky; divided, lobed lvs; pink fls; hairy petal bases
UMA	<i>Geum macrophyllum</i>	GEMA	MF	Term leaf segment largest; yellow, 5-petal fls; riparian
FCH	<i>Geum triflorum</i>	GETR	LF	Divided, feathery leaves; 3 nodding, pink fls; meadows
UMA	<i>Gilia aggregata</i>	GIAG	MF	Deeply divided lvs; red, trumpet-shaped fls; dry sites
UMA	<i>Gilia capillaris</i>	GICA2	LF	Linear leaves; black stem glands; pink fls; mesic sites
CGJ	<i>Gilia congesta</i>	GICO	LF	Clumpy; divided lvs; narrow segments; white fl "balls"
UMA	<i>Gilia leptomeria</i>	GILE	LF	Toothed, oblong, bas lvs; pink fls; wide infl; dry sites
UMA	<i>Githopsis specularioides</i>	GISP2	LF	Lan, serrate leaves; blue fls exceeded by calyx lobes
UMA	<i>Glyceria grandis</i>	GLGR	RG	Wide leaves; open, trian pan; tiny, purple fls; riparian
UMA	<i>Gnaphalium palustre</i>	GNPA	LF	Oblong, sess lvs; white fls; woolly bracts; moist sites
FCH	<i>Goodyera oblongifolia</i>	GOOB	OR	Basal, white-veined lvs; raceme of small white flowers
UMA	<i>Gratiola ebracteata</i>	GREB	LF	Clasping, ovate lvs; small, white fls; low-elev riparian
CGJ	<i>Grindelia nana</i>	GRNA	MF	Toothed lvs; yellow rays; green, curled, phyllary tips
FCH	<i>Grindelia squarrosa</i>	GRSQ	MF	Spat, toothed lvs; yellow rays; gummy heads; dry sites
UMA	<i>Gutierrezia sarothrae</i>	GUSA	LS	Linear lvs; small, yellow rays; twiggy habit; dry sites
FCH	<i>Gymnocarpium dryopteris</i>	GYDR	F	Short; horizontal, tri-pinnate blades; black petioles
DCP	<i>Habenaria dilatata</i>	HADI	OR	Tall; raceme of fragrant snow-white flowers; wet sites
UMA	<i>Habenaria elegans</i>	HAEL	OR	Bas lvs withered at flowering; green, long-spurred fls
FCH	<i>Habenaria unalascensis</i>	HAUN	OR	2-4 basal leaves; small, green fls; high, mesic sites
CGJ	<i>Hackelia cusickii</i>	HACU	LF	Basal, long-petioled, narrow lvs; blue fls; Burns RD
CGJ	<i>Hackelia jessicae</i>	HAJE	MF	Clumpy; narrow, basal leaves; blue fls with yellow eye
CGJ	<i>Haplopappus bloomeri</i>	HABL	LS	Alt, linear lvs; green-yellow fls; resembles rabbitbrush
UMA	<i>Haplopappus carthamoides</i>	HACA	LF	Spat, long-petioled lvs; hairy bracts; rayless; meadow
UMA	<i>Haplopappus greenei</i>	HAGR	LS	Spat, alt lvs; few yellow rays; green bracts; high elev
UMA	<i>Haplopappus hirtus</i>	HAHI	LF	Spat, serr, long-petioled lvs; yellow rays; mesic sites
FCH	<i>Haplopappus lanuginosus</i>	HALA	LF	Soft, lanceolate, basal lvs; yellow rays; hairy bracts
CGJ	<i>Haplopappus stenophyllus</i>	HAST2	LF	Tiny, basal, linear leaves; wide, yellow rays; dry sites
CGJ	<i>Helianthella uniflora</i>	HEUN	TF	3-veined, rough leaves; 13-21 yellow rays; open woods
CGJ	<i>Helianthus annuus</i>	HEAN	TF	Rough-leaved weed along roads; large, yellow flowers
UMA	<i>Helianthus nuttallii</i>	HENU	TF	Opp, lan, rough lvs; yellow rays and disk; moist sites

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FCH	<i>Heracleum lanatum</i>	HELA	TF	Big palmately-lobed lvs; white fl umbels; grooved stem
CGJ	<i>Hesperochiron pumilus</i>	HEPU	LF	Basal, spatulate leaves; white, 5-petalled fls; meadow
UMA	<i>Heterocodon rariflorum</i>	HERA2	LF	Lax annual; round, toothed lvs; blue fls; moist sites
FCH	<i>Heuchera cylindrica</i>	HECY	LF	Cordate, lobed lvs; raceme of white fls; PIPO forests
CGJ	<i>Heuchera grossularifolia</i>	HEGR	LF	Resembles HECY; more common east of Malheur NF
FCH	<i>Hieracium albertinum</i>	HIAL2	MF	Yellow flowers; densely hairy, lanceolate lvs; dry sites
FCH	<i>Hieracium albiflorum</i>	HIAL	MF	White flowers; hairy stem & lower leaves; mesic sites
UMA	<i>Hieracium cynoglossoides</i>	HICY	MF	Very similar to HIAL2 and HISC; intermediate hairiness
FCH	<i>Hieracium scouleri</i>	HISC	MF	Oblan lvs: sparse hairs; yellow rays; dry sites; scarce
FCH	<i>Holodiscus discolor</i>	HODI	MS	Doubly-toothed lvs: white hairs below; white fl sprays
UMA	<i>Holodiscus dumosus</i>	HODU	MS	Oval doubly-toothed lvs; peeling bark; white fl sprays
CGJ	<i>Hordeum brachyantherum</i>	HOBH	BG	Tufted; dense, bristly spikes; wet areas (occ dry too)
UMA	<i>Hordeum jubatum</i>	HOJU	BG	Rough, narrow lvs; soft "foxtail" spike with long awns
CGJ	<i>Horkelia fusca</i>	HOFU	LF	Pinnatifid leaves: lobed lfts; pink flowers; wet areas
FCH	<i>Hydrophyllum capitatum</i>	HYCA	LF	Pink, ball fls hiding under pinnatifid lvs; moist sites
UMA	<i>Hydrophyllum fendleri</i>	HYFE	MF	Pinnately divided lvs; pink fls with exerted stamens
UMA	<i>Hypericum anagalloides</i>	HYAN	LF	Low; oval, opp, clasping lvs; orange fls; moist areas
CGJ	<i>Hypericum formosum</i>	HYFO	MF	Opposite, oval leaves with black dots; 5 yellow petals
UMA	<i>Hypericum perforatum</i>	HYPE	MF	Opp, elliptic leaves with black dots; yellow fls; weedy
UMA	<i>Hypopitys monotropa</i>	HYMO	LF	Pink or red stems; nodding, red-yellow fls; from duff
UMA	<i>Idahoia scapigera</i>	IDSC	LF	Oval, lobed, long-petioled leaves; round sil; dry sites
UMA	<i>Iliamna rivularis</i>	ILRI	TF	Large, maple-like leaves; pink, 5-petal fls; moist sites
FCH	<i>Iris missouriensis</i>	IRMI	LF	Sword-like lvs; pale blue, fleur-de-lis fls; wet meadow
CGJ	<i>Ivesia gordonii</i>	IVGO	LF	Divided, whorled leaves; yellow fls in balls; high elev
UMA	<i>Juncus acuminatus</i>	JUAC	GL	Tufted; tall and robust; open, terminal infl; wet sites
FCH	<i>Juncus balticus</i>	JUBA	GL	Rhizomes; fl clusters 1/3 down from stem top; riparian
UMA	<i>Juncus bufonius</i>	JUBU	GL	Short annual; fls at nodes along whole stem; wet area
FCH	<i>Juncus drummondii</i>	JUDR	GL	Tufted; 1-3 brown flowers near stem tip; moist meadow
UMA	<i>Juncus ensifolius</i>	JUEN	GL	Rhizomes; flat, wide lvs; terminal ball fls; moist areas
UMA	<i>Juncus filiformis</i>	JUFI	GL	Rhizomes; no blades; fls < halfway up stem; wet area
UMA	<i>Juncus mertensianus</i>	JUME	GL	Rhizomes; fls in 1 round, terminal infl; high elevation
UMA	<i>Juncus tenuis</i>	JUTE	GL	Tufted; short lvs; fls just below stem top; moist areas
FCH	<i>Juniperus communis</i>	JUCO4	LS	Prickly, awl-shaped leaves; blue fruits; frost pockets
FCH	<i>Juniperus occidentalis</i>	JUOC	T	Orange, shreddy bark; blue frts; scabs or PIPO forests
FCH	<i>Koeleria cristata</i>	KOCR	BG	Basal lvs: <i>Poa</i> -like tips; narrow panicle to 5"; no awns
UMA	<i>Lactuca serriola</i>	LASE	MF	Prickly, pinn-lobed leaves; yellow fls: open infl; lettuce
UMA	<i>Lagophylla ramosissima</i>	LARA	LF	Gray annual; lan, alt leaves; 5 yellow rays; dry sites
FCH	<i>Larix occidentalis</i>	LAOC	T	Tufted needles; brown bark; mesic, mixed-conifer sites
DCP	<i>Lathyrus bijugatus</i>	LABI	LF	2 to 4 long, narrow lfts; pink fls; tendrils; big stipules
DCP	<i>Lathyrus lanszwertii</i>	LALA2	LF	4 to 10 long, narrow leaflets; purple flowers; stipules
DCP	<i>Lathyrus nevadensis</i>	LANE	LF	4-10 oval lfts; pink fls; unbranched tendrils; stipules
UMA	<i>Lathyrus pauciflorus</i>	LAPA2	LF	8-10 oval leaflets; pink flowers; tendrils; big stipules
UMA	<i>Lepidium campestre</i>	LECA	LF	Gray annual; oblong, clasping lvs; tiny white fls; weed
UMA	<i>Lepidium perfoliatum</i>	LEPE	MF	Cordate, perfoliate lvs; tiny yellow fls; dry-site weed
UMA	<i>Lesquerella occidentalis</i>	LEOC	LF	Silvery, spat lvs; yellow flowers in open infl; oval sil
CGJ	<i>Lewisia rediviva</i>	LERE	LF	Succulent leaves; large, white-pink flowers; dry sites
CGJ	<i>Lewisia triphylla</i>	LETR	LF	Whorled, lan lvs; 5-9 white/pink petals; early bloomer

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DCP	<i>Ligusticum canbyi</i>	LICA2	TF	Wide leaf divisions; more than one umbel; wet sites
CGJ	<i>Ligusticum tenuifolium</i>	LITE2	MF	Fine, fernlike leaf divisions; one umbel; moist sites
DCP	<i>Linanthes nuttallii</i>	LINU	LF	Whorled leaves; white, 5-petalled fls; disturbed areas
UMA	<i>Linanthus harknessii</i>	LIHA	LF	Whorled lvs: lin segments; white, 5-petal fls; dry sites
CGJ	<i>Linaria dalmatica</i>	LIDA	MF	Clumpy; oval, clasping lvs; yellow, 2-lipped flowers
UMA	<i>Linaria vulgaris</i>	LIVU2	MF	Rhizomes; alt, lan lvs; yellow fls: orange beard; weed
FCH	<i>Linnaea borealis</i>	LIBO2	LF	Creeping; 2 pink fls; opposite, oval leaves; moist sites
CGJ	<i>Linum lewisii</i>	LILE	MF	Narrow, alternate lvs; 5-petalled, blue flowers; Flax
UMA	<i>Linum perenne</i>	LIPE	MF	Like LILE, but flowers with stamens of varying length
UMA	<i>Listera borealis</i>	LIBO	OR	2 opp oval lvs near midstem; bilobed lip; smooth stems
FCH	<i>Listera caurina</i>	LICA3	OR	2 opp oval lvs > midstem; yellow-green fls; hairy stem
UMA	<i>Listera convallarioides</i>	LICO2	OR	2 opp oval leaves > midstem; green flowers; hairy stem
UMA	<i>Listera cordata</i>	LICO	OR	2 cordate lvs near midstem; green fls; forked lip lobe
CGJ	<i>Lithophragma bulbifera</i>	LIBU	LF	Purple bulbs at leaf axils; 5, 5-lobed, white petals
CGJ	<i>Lithophragma parviflora</i>	LIPA	LF	5-lobed leaves; purple stems; white, 3-5 lobed petals
DCP	<i>Lithospermum ruderales</i>	LIRU	MF	Clumpy; narrow, alternate leaves; creamy, tubular fls
UMA	<i>Lomatium ambiguum</i>	LOAM	LF	Divided lvs: long narrow segments; yellow fls in balls
UMA	<i>Lomatium cous</i>	LOCO2	LF	Divided, fernlike lvs; yellow flowers in balls; dry sites
CGJ	<i>Lomatium dissectum</i>	LODI2	MF	Tall; yellow umbel flowers; dissected leaves; openings
CGJ	<i>Lomatium donnellii</i>	LODO	LF	Branched at base; basal, dissected lvs; yellow umbels
CGJ	<i>Lomatium grayi</i>	LOGR	LF	Finely dissected, basal lvs; yellow, umbel fls; scabs
UMA	<i>Lomatium leptocarpum</i>	LOLE	LF	Divided lvs with narrow segments; yellow fls in balls
CGJ	<i>Lomatium macrocarpum</i>	LOMA	LF	Gray, dissected, basal lvs; white umbel fls; low elev
CGJ	<i>Lomatium nudicaule</i>	LONU	MF	Blue, oval, toothed leaflets; basal lvs; yellow umbels
CGJ	<i>Lomatium triternatum</i>	LOTR	LF	Lin leaf segments; bas lvs; yellow umbels; mesic sites
FCH	<i>Lonicera ciliosa</i>	LOCI	LS	Vine; oval, opposite leaves; perfoliate leaf below fls
FCH	<i>Lonicera hispidula</i>	LOHI	MS	Vine; large leaf stipules; not common east of Cascades
FCH	<i>Lonicera involucrata</i>	LOIN	MS	Red bracts around 2 black frts; 4-sided twigs; opp lvs
FCH	<i>Lonicera utahensis</i>	LOUT2	MS	Opposite, blue-green lvs; 2 yellow fls; red united frts
CGJ	<i>Lotus corniculatus</i>	LOCO3	LF	Creeping weed along road; 3-5 part lvs; yellow pea fls
UMA	<i>Lotus purshianus</i>	LOPU	LF	Hairy annual; 3 oval lfts; pale, yellow fls; open sites
DCP	<i>Luina serpentina</i>	LUSE2	MF	Rare; lan lvs: white below; yellow fls; near Fields Cr.
FCH	<i>Lupinus argenteus</i>	LUAR3	MF	Basal leaves withered at flowering time; smooth banner
UMA	<i>Lupinus burkei</i>	LUBU	MF	Hairless stems and petioles; 9 to 13 smooth leaflets
FCH	<i>Lupinus caudatus</i>	LUCA	MF	Hairy calyx is spurred at rear; very common on Malheur
DCP	<i>Lupinus latifolius</i>	LULA	MF	Broad leaf lobes; blue flowers; hairless; moist sites
CGJ	<i>Lupinus laxiflorus</i>	LULA2	MF	White or pink fls; 7-11 leaflets; PIPO forests or sage
CGJ	<i>Lupinus lepidus</i>	LULE2	LF	Low growing; hairy, gray leaves with 5 to 9 leaflets
CGJ	<i>Lupinus leucophyllus</i>	LULE	MF	Dense, tall, flower spikes; 7 to 10 hairy leaflets
CGJ	<i>Lupinus polyphyllus</i>	LUPO	MF	Hairy stem, petioles and lft bottoms; upper lft smooth
CGJ	<i>Lupinus saxosus</i>	LUSA	LF	Rusty foliage and stems; 7 to 12 short, oval leaflets
UMA	<i>Lupinus sericeus</i>	LUSE	MF	Silky, narrow leaflets; blue-green foliage; dry sites
CGJ	<i>Lupinus sulphureus</i>	LUSU	MF	Resembles LUAR3, but basal lvs present at flowering
UMA	<i>Luzula campestris</i>	LUCA2	GL	Hairy leaf collar; plump fl spikes at stem top & lower
DCP	<i>Luzula hitchcockii</i>	LUHI	GL	Tall; clasp lvs w/brown tips; open, nodding seedheads
DCP	<i>Luzula parviflora</i>	LUPA	GL	Rhizomes; lax, 1-sided pan; hollow stem; wet areas
UMA	<i>Luzula spicata</i>	LUSP	GL	Tufted; hairy leaf collar; nodding, conelike spikes

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UMA	<i>Lychnis alba</i>	LYAL	MF	Hairy; opposite, lan leaves; white fls; inflated calyx
UMA	<i>Lycopodium annotinum</i>	LYAN	LF	Trailing; simple or forked stems; pointed leaf tip; rare
UMA	<i>Machaeranthera canescens</i>	MACA2	LF	Lan, toothed, alt leaves; blue or purple rays; dry sites
UMA	<i>Machaeranthera shastensis</i>	MASH	LF	Narrow, linear lvs (occ toothed); blue rays; dry sites
CGJ	<i>Madia citriodora</i>	MACI	LF	Long, linear lvs; lemon scent; yellow rays; dry sites
UMA	<i>Madia exigua</i>	MAEX	LF	Hairy ann; narrow, lin lvs; appears rayless; dry sites
UMA	<i>Madia glomerata</i>	MAGL	MF	Linear, alternate lvs; sticky thruout; rayless; meadow
UMA	<i>Madia gracilis</i>	MAGR	MF	Hairy annual; lan, serrate lvs; yellow rays; dry sites
UMA	<i>Madia minima</i>	MAMI	LF	Branched ann; few opp, lin lvs; rayless; PIPO forests
UMA	<i>Matricaria maritima</i>	MAMA3	LF	Divided lvs: lin segments; white rays; roadside weed
UMA	<i>Matricaria matricarioides</i>	MAMA2	LF	Divided, fernlike lvs; rayless; pineapple smell; weedy
UMA	<i>Medicago lupulina</i>	MELU	LF	Low annual; 3 oval lfts; yellow, cloverlike fls; weedy
UMA	<i>Medicago sativa</i>	MESA	MF	3 oblong, toothed leaflets; blue or purple fls; alfalfa
FCH	<i>Melica bulbosa</i>	MEBU	RG	Tall; bulbous rhizomes; no awns; resembles bromes
UMA	<i>Melica spectabilis</i>	MESP	RG	Tall; bulbous bases; long, wide lvs; open, erect pan
UMA	<i>Melilotus officinalis</i>	MEOF	TF	3 oblong, toothed lfts; yellow, sweet-clover fls; weedy
DCP	<i>Mentha arvensis</i>	MEAR3	MF	Square stem; opp, serr lvs; pink, axil fls; mint scent
UMA	<i>Mentha spicata</i>	MESP2	MF	Oval, serr, opp lvs; long, purple fl spikes; moist areas
UMA	<i>Mentzelia albicaulis</i>	MEAL2	LF	Hairy, deeply-lobed lvs; white, waxy stems; yellow fls
UMA	<i>Mentzelia dispersa</i>	MEDI	LF	Lanceolate, sinuate, hairy leaves; yellow fls; dry sites
CGJ	<i>Mentzelia laevicaulis</i>	MELA2	MF	Hairy, sinuate leaves; yellow, 5-petalled fls; dry sites
FCH	<i>Menziesia ferruginea</i>	MEFE	LS	Whorled, blue-green, sticky, stinky lvs; pink, bell fls
UMA	<i>Mertensia ciliata</i>	MECI	TF	Oval, veined, blue-green leaves; blue, tub fls; riparian
CGJ	<i>Mertensia longiflora</i>	MELO	LF	Short; sessile, oblanceolate lvs; blue flowers; common
FCH	<i>Mertensia oblongifolia</i>	MEOB	LF	Spat bas lvs; lan stem leaves; blue flowers; dry sites
UMA	<i>Mertensia paniculata</i>	MEPA	MF	Cordate, petiolate, bas lvs; sessile stem lvs; blue fls
UMA	<i>Mertensia viridis</i>	MEVI	LF	Hairy; lanceolate, sessile, stem leaves; high elevations
UMA	<i>Microseris nutans</i>	MINU	LF	Long, pointed, lan, basal leaves; yellow fls; moist sites
FCH	<i>Microseris troximoides</i>	MITR	LF	Long, wavy-edged lvs; yellow rays; looks like <i>Agoseris</i>
CGJ	<i>Microsteris gracilis</i>	MIGR	LF	Lan, opposite lvs; white, 5-petalled flowers; dry sites
UMA	<i>Mimulus breviflorus</i>	MIBR3	LF	Branched ann; opp oval lvs; yellow fls; moist low site
UMA	<i>Mimulus breweri</i>	MIBR2	LF	Hairy annual; opposite, lan lvs; purple fls; moist sites
CGJ	<i>Mimulus cusickii</i>	MICU	LF	Low ann; wide, hairy, oval, opp leaves; big, purple fls
CGJ	<i>Mimulus guttatus</i>	MIGU	MF	Opp toothed lvs; square stem; yellow fls w/spotted lip
CGJ	<i>Mimulus lewisii</i>	MILE	MF	Opp, oval, toothed leaves; showy purple fls; wet area
UMA	<i>Mimulus moschatus</i>	MIMO	LF	Low; hairy; oval, serrate leaves; yellow fls; moist areas
CGJ	<i>Mimulus nanus</i>	MINA	LF	Short ann; small, purple fls; opp, lan lvs; rocky sites
CGJ	<i>Mimulus primuloides</i>	MIPR	LF	Oblan lvs mostly at base; 1 yellow fl on leafless stem
CGJ	<i>Mimulus tilingii</i>	MITI	LF	Oval, toothed, sessile leaves; large yellow fls, riparian
UMA	<i>Mimulus washingtonensis</i>	MIWA	LF	Oval, long-petioled leaves; yellow fls; low, wet sites
UMA	<i>Mitella breweri</i>	MIBR	LF	Basal, toothed cordate lvs; green divided fls point up
UMA	<i>Mitella caulescens</i>	MICA3	LF	Hairy, cordate, lobed lvs; green, bell fls point down
UMA	<i>Mitella pentandra</i>	MIPE	LF	Basal, lobed, sticky leaves; green saucer fls point up
FCH	<i>Mitella stauropetala</i>	MIST2	LF	Purplish basal lvs; white, fringed fls in 1-sided infl
CGJ	<i>Mitella trifida</i>	MITR2	LF	Basal leaves with hairy petioles; small, 3-lobed petals
FCH	<i>Monardella odoratissima</i>	MOOD	LF	Clumpy; oval, opp lvs; pink, mint-like fls; open sites
DCP	<i>Moneses uniflora</i>	MOUN	LF	Round, toothed lvs; white, waxy, solitary, nodding fls

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CGJ	<i>Monotropa uniflora</i>	MOUN2	LF	Waxy, white stem and solitary fls; moist, shaded woods
UMA	<i>Montia chamissoi</i>	MOCH	LF	Opp, oblan, petioled lvs; pink fls; stolons; wet areas
UMA	<i>Montia cordifolia</i>	MOCO	MF	Lvs: opp stem, cordate bas; white 5-pet fls w/o bracts
UMA	<i>Montia linearis</i>	MOLI	LF	Long linear lvs; white fls: 1-sided raceme; moist area
DCP	<i>Montia perfoliata</i>	MOPE	MF	White, 5-petalled fls above perfoliate leaf; moist areas
UMA	<i>Montia sibirica</i>	MOSI	MF	Opp, oval lvs near top; white/pink 5-petal fls; riparian
UMA	<i>Myosotis micrantha</i>	MYMI	LF	Alt, oval, sess lvs; blue fls along entire stem; weedy
UMA	<i>Navarretia breweri</i>	NABR	LF	Linear, prickly leaf segments; yellow flowers; dry sites
UMA	<i>Navarretia divaricata</i>	NADI	LF	Low, broad ann; few, prickly lvs; white fls; dry sites
UMA	<i>Navarretia intertexta</i>	NAIN	LF	Linear, pointed leaf segments; white flowers; openings
UMA	<i>Nemophila breviflora</i>	NEBR	LF	Prickly stem; lobed, oak-like lvs; purple fls; open sites
UMA	<i>Nemophila pedunculata</i>	NEPE	LF	Prostrate; lobed, oak-like lvs; purple fls; moist sites
UMA	<i>Oenothera contorta</i>	OECO	LF	Low ann; lin lvs; small, sess, yellow fls; sandy areas
UMA	<i>Oenothera heterantha</i>	OEHE	LF	Stemless; spatulate, sinuate lvs; yellow fls; meadows
CGJ	<i>Oenothera tanacetifolia</i>	OETA	LF	Sinuate, spatulate lvs; yellow flowers; PIPO forests
UMA	<i>Onobrychis viciaefolia</i>	ONVI	LF	11 to 17 elliptic leaflets; pink, pea-like flowers; weedy
UMA	<i>Orobanche fasciculata</i>	ORFA2	LF	Purple or yellow stems and fls; a sagebrush parasite
CGJ	<i>Orobanche uniflora</i>	ORUN	LF	Short; purple, tubular flowers; open sites; parasitic
UMA	<i>Orthocarpus hispidus</i>	ORHI	LF	Hairy; linear or lobed lvs; white/yellow fls; meadows
CGJ	<i>Orthocarpus tenuifolius</i>	ORTE	LF	Hairy; divided leaves with narrow segments; yellow fls
FCH	<i>Osmorhiza chilensis</i>	OSCH	MF	Ternately comp leaves; beak-like fruit tips; moist sites
DCP	<i>Osmorhiza depauperata</i>	OSDE	MF	Similar to OSCH except that fruits are rounded at tip
UMA	<i>Osmorhiza occidentalis</i>	OSOC	MF	Oval leaflets with shallower serrations than OSCH's
FCH	<i>Pachistima myrsinites</i>	PAMY	LS	Opposite, narrow, toothed lvs; 4-ridged twigs; red fls
FCH	<i>Paeonia brownii</i>	PABR	LF	Waxy, lobed leaves; brown, hanging flowers; dry sites
CGJ	<i>Parnassia fimbriata</i>	PAFI	MF	Cordate, petiolate leaves; fringed petals; wet sites
UMA	<i>Pedicularis bracteosa</i>	PEBR	MF	Pinnatifid lvs; dense, yellow fl spike; high elevations
DCP	<i>Pedicularis contorta</i>	PECO2	LF	Yellow flowers; pinnatifid leaves; subalpine sites
FCH	<i>Pedicularis groenlandica</i>	PEGR	MF	Purple, elephanthead fls; pinnatifid lvs; wet meadows
FCH	<i>Pedicularis racemosa</i>	PERA	LF	White or pink axillary fls; toothed lvs; high elevations
FCH	<i>Penstemon attenuatus</i>	PEAT	MF	Opposite, lan lvs; whorled, blue flowers; mesic sites
UMA	<i>Penstemon confertus</i>	PECO	LF	Opp, spat lvs; small, whorled, yellow fls; moist sites
DCP	<i>Penstemon davidsonii</i>	PEDA	LF	Creeping; short, oblan lvs; erect blue flowers; talus
FCH	<i>Penstemon deustus</i>	PEDE	MF	3 or 4 long, toothed lvs/whorl; white fls; open sites
CGJ	<i>Penstemon elegantulus</i>	PEEL	LF	Tufted; opposite, lanceolate lvs; blue fls; east Blues
FCH	<i>Penstemon flavescens</i>	PEFL	LF	Wide opp lvs; blue fls: dense term cluster; rocky site
CGJ	<i>Penstemon fruticosus</i>	PEFR	LF	Oval, opp lvs; 1-sided raceme of blue fls; open sites
CGJ	<i>Penstemon gairdneri</i>	PEGA	LF	Narrow, alternate lvs; purple flowers; dry, rocky sites
UMA	<i>Penstemon pennellianus</i>	PEPE3	MF	Lan bas lvs; oval stem lvs; bright, blue fls; open sites
UMA	<i>Penstemon procerus</i>	PEPR	LF	Lan, opp lvs; small blue/purple fls; usually high elev
CGJ	<i>Penstemon richardsonii</i>	PERI	MF	Opposite, toothed leaves; purple fls; dry, rocky sites
CGJ	<i>Penstemon rydbergii</i>	PERY	MF	Opp, oblan leaves; whorled, axillary, blue fls; meadow
DCP	<i>Penstemon spatulatus</i>	PESP3	LF	Rare; opp, lan lvs; whorled blue fls; Strawberry Mtns.
CGJ	<i>Penstemon speciosus</i>	PESP	MF	Long, thick, opp lvs; whorled, blue fls; dry, low sites
UMA	<i>Penstemon venustus</i>	PEVE	MF	Opp, lan, serr lvs; no basal lvs; purple fls; open sites
CGJ	<i>Peraphyllum ramosissimum</i>	PERA3	MS	Acute oblanceolate lvs; pink 5-petalled fls; gray bark
CGJ	<i>Perideridia bolanderi</i>	PEBO	MF	Divided lvs: long narrow segments; white fls; dry site

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UMA	<i>Perideridia gairdneri</i>	PEGA2	MF	Divided lvs; long narrow segments; white fls; meadow
FCH	<i>Petasites frigidus</i>	PEFR2	TF	Big palm-lobed lvs; white rays; stem sheath; wet sites
UMA	<i>Phacelia hastata</i>	PHHA	MF	Silvery, lan leaves; pink, pincushion flowers; dry sites
DCP	<i>Phacelia heterophylla</i>	PHHE	MF	Hairy, 3-part leaves; white fls; long stamens; dry sites
UMA	<i>Phacelia linearis</i>	PHLI	LF	Lan or 3-lobed leaves; big, bluish, open fls; dry sites
CGJ	<i>Phacelia sericea</i>	PHSE	MF	Weedy; purple, pincushion fls; divided lvs; red stems
UMA	<i>Phleum alpinum</i>	PHAL	BG	Shorter and wider spikes than PHPR; high elevations
UMA	<i>Phleum boehmeri</i>	PHBO		
DCP	<i>Phleum pratense</i>	PHPR	BG	Disturbed area; dense fl spike; swollen, bulbous bases
CGJ	<i>Phlox austromontana</i>	PHAU	LF	White fls; matted; narrow leaves; open, high-elev area
UMA	<i>Phlox caespitosa</i>	PHCA2	LF	Pink fls; linear, pungent lvs; semi-erect; PIPO forests
CGJ	<i>Phlox diffusa</i>	PHDI	LF	White flowers; matted; narrow lvs; east Blue Mountains
CGJ	<i>Phlox hoodii</i>	PHHO	LF	Blue flowers; matted; pungent leaves; low elevations
CGJ	<i>Phlox longifolia</i>	PHLO	LF	Pink flowers; upright; opposite, linear lvs; dry sites
CGJ	<i>Phlox muscoides</i>	PHMU2	LF	White flowers; matted; low elevations; looks like PHHO
CGJ	<i>Phlox pulvinata</i>	PHPU	LF	White flowers; matted; high elevations; eastern Blues
FCH	<i>Philadelphus lewisii</i>	PHLE2	MS	Oval, opp leaves; white, 4-petalled fls; rocky sites
FCH	<i>Phoenicaulis cheiranthoides</i>	PHCH	LF	Bas, hairy, spat leaves; pink, 4-petal fls; long siliques
FCH	<i>Physocarpus malvaceus</i>	PHMA	MS	3-lobed, serrate leaves; peeling bark; white flowers
FCH	<i>Picea engelmannii</i>	PIEN	T	Orange or gray, flaky bark; square needles; subalpine
FCH	<i>Pinus albicaulis</i>	PIAL	T	5 needles per fascicle; dwarfed at high elevations
FCH	<i>Pinus contorta</i>	PICO	T	Orange, flaky bark; 2 or 3 short needles per fascicle
FCH	<i>Pinus monticola</i>	PIMO	T	5 needles per fascicle; gray bark; long cones; scarce
FCH	<i>Pinus ponderosa</i>	PIPO	T	Black or orange bark; 2 or 3 long needles per fascicle
UMA	<i>Plagiobothrys scouleri</i>	PLSC2	LF	Flat, hairy annual; opp, lan lvs; white fls; moist sites
UMA	<i>Plantago lanceolata</i>	PLLA	LF	Long, lan, bas lvs; trian spike at stem tip; moist area
UMA	<i>Plantago major</i>	PLMA	LF	Ovate, long-petioled lvs; long, lan spikes; road weed
UMA	<i>Plantago patagonica</i>	PLPA	LF	Lan, hairy, basal lvs; hairy, narrow spikes; dry sites
UMA	<i>Plectritis macrocera</i>	PLMA3	LF	Opp, oblong lvs; dense spike of pinkish fls; wet sites
UMA	<i>Poa annua</i>	POAN	RG	Short annual; open, trian pan; lax leaves; moist sites
UMA	<i>Poa bulbosa</i>	POBU	BG	Bulbous bases & fls; open or lan pan; short lvs; weedy
FCH	<i>Poa nervosa</i>	PONE	RG	Narrow lvs; purple fls and stem bases; zig-zag panicle
UMA	<i>Poa palustris</i>	POPA	RG	Long, open, triangular panicle; lax leaves; moist area
FCH	<i>Poa pratensis</i>	POPR	RG	Pyramidal panicle; tuft of hair at base of each flower
FCH	<i>Poa sandbergii</i>	POSA3	BG	Erect pan; inrolled leaves; purplish thruout; dry area
UMA	<i>Polemonium micranthum</i>	POMI	LF	Branched annual; small, white fls; small lfts; low elev
CGJ	<i>Polemonium occidentale</i>	POOC	MF	11-27 acute lfts; blue flowers; long styles; wet sites
FCH	<i>Polemonium pulcherrimum</i>	POPU	LF	11-25 leaflets; blue fls; skunky odor; high elevations
UMA	<i>Polygonum aviculare</i>	POAV	LF	Spread ann; short, oblong lvs; tiny, axil fls; dry sites
CGJ	<i>Polygonum bistortoides</i>	POBI	MF	Oblong, bas, petiolate lvs; white fl spike; moist areas
UMA	<i>Polygonum kelloggii</i>	POKE	LF	Small ann; lin lvs; pinkish fls; mesic, high-elev areas
UMA	<i>Polygonum majus</i>	POMA2	LF	Erect annual; lin lvs; pink/green, axil fls; PIPO forests
FCH	<i>Polygonum phytolaccaefolium</i>	POPH	MF	Big, ovate lvs; small white fls in pan; high elev; weed
UMA	<i>Polygonum spargulariaeforme</i>	POSP	LF	Branched ann; lan lvs; pink/green axil fls; moist area
CGJ	<i>Polystichum lonchitis</i>	POLO2	F	Lanceolate blades w/short triangular pinnae; crevices
CGJ	<i>Polystichum mohrioides</i>	POMO3	F	20-35 bipinnate, overlapping pinnae/side; rocky areas
CGJ	<i>Polystichum munitum</i>	POMU	F	Long pinnae are flared at base like sword; moist sites

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DCP	<i>Populus tremuloides</i>	POTR	T	White bark; catkins; cordate leaves; at meadow fringes
FCH	<i>Populus trichocarpa</i>	POTR2	T	Cordate-oval lvs w/long petioles; rough bark; riparian
UMA	<i>Potamogeton richardsonii</i>	PORI2	MF	Oval, submersed leaves; dense fl spikes; shallow water
DCP	<i>Potentilla arguta</i>	POAR	MF	5-9 pinnate leaflets; cream colored fls; hairy thruout
CGJ	<i>Potentilla diversifolia</i>	PODI	LF	5 to 7 digitate leaflets; basal leaves; yellow flowers
FCH	<i>Potentilla flabellifolia</i>	POFL2	LF	Toothed, 3-part leaves w/long petioles; yellow flowers
FCH	<i>Potentilla glandulosa</i>	POGL	MF	5 to 9 pinnate leaflets; yellow flowers; sticky foliage
FCH	<i>Potentilla gracilis</i>	POGR	MF	5 to 9 bicolored, digitate leaflets; yellow flowers
UMA	<i>Potentilla recta</i>	PORE2	MF	Digitate, shallowly-toothed lfts; yellow fls; hairy weed
DCP	<i>Prunella vulgaris</i>	PRVU	LF	Square stem; terminal, pink fl spike; opp petiolate lvs
DCP	<i>Prunus emarginata</i>	PREM	TS	Obovate, serrate leaves; red bark; red fruits; white fls
DCP	<i>Prunus virginiana</i>	PRVI	TS	Shiny, serrate, alt lvs; white flower racemes; red fruits
FCH	<i>Pseudotsuga menziesii</i>	PSME	T	Petiolate needles; rat-tail cone bracts; montane sites
FCH	<i>Pteridium aquilinum</i>	PTAQ	F	Tall; 2-3 pinnately comp blades; rhizomes; fiddleheads
FCH	<i>Pterospora andromedea</i>	PTAN	MF	Saprophyte; brown stem and lvs; yellow bell flowers
UMA	<i>Pteryxia terebinthina</i>	PTTE	LF	Actually same species as <i>Cymopterus terebinthinus</i> ?
FCH	<i>Purshia tridentata</i>	PUTR	MS	Yellow flowers; 3-lobed lvs; dry area of south Malheur
CGJ	<i>Pyrola aphylla</i>	PYAP	LF	Red flowers; red stems without lvs, but bracts present
FCH	<i>Pyrola asarifolia</i>	PYAS	LF	Shiny, round lvs: purple below; pink fls; moist sites
CGJ	<i>Pyrola chlorantha</i>	PYCH	LF	Round lvs shorter than petiole; green fls; mesic sites
UMA	<i>Pyrola elliptica</i>	PYEL	LF	Basal, petioled, ovate lvs; white or green fls; forests
FCH	<i>Pyrola picta</i>	PYPI	LF	White-veined leaves; purple petioles; red flowers
FCH	<i>Pyrola secunda</i>	PYSE	LF	White fls in 1-sided row; oval toothed lvs; mesic area
UMA	<i>Pyrola uniflora</i>	PYUN	LF	Short, ovate, basal lvs; one white, term fl; mesic sites
CGJ	<i>Ranunculus alismaefolius</i>	RAAL	LF	Bas lvs w/long petioles; 5 yellow petals; clasping lvs
CGJ	<i>Ranunculus andersonii</i>	RAAN	LF	Rare; comp, divided lvs; purplish sepals; 5 white petals
CGJ	<i>Ranunculus aquatilis</i>	RAAQ	LF	Aquatic; leaves: submersed-divided, exposed-trifoliate
UMA	<i>Ranunculus cymbalaria</i>	RACY	LF	Cordate, long-petioled, basal lvs; yellow fls; wet sites
CGJ	<i>Ranunculus eschscholtzii</i>	RAES	LF	Oval lvs w/3 points; 5 purple sepals; 5 yellow petals
CGJ	<i>Ranunculus glaberrimus</i>	RAGL	LF	Oval long-petioled lvs: mostly 3-lobed; 5-8 yellow pet
CGJ	<i>Ranunculus occidentalis</i>	RAOC	LF	Hairy thruout; 3-lobed, toothed lvs; 5-8 yellow petals
CGJ	<i>Ranunculus orthorhynchus</i>	RAOR	LF	Hairy; comp, divided leaves; 5-7 yellow petal; montane
FCH	<i>Ranunculus populago</i>	RAPO	LF	Cordate, sinuate leaves; 5-7 yellow petals; axillary fls
CGJ	<i>Ranunculus repens</i>	RARE	LF	Creeping; trilobed, comp lvs; 5-9 yellow petals; weedy
UMA	<i>Ranunculus scleratus</i>	RASC	LF	Bas, doubly 3-5 lobed lvs; 5 yellow petals; wet meadow
CGJ	<i>Ranunculus subgrigidus</i>	RASU2	LF	Aquatic; finely-dissected leaves: no petioles; white fls
UMA	<i>Ranunculus uncinatus</i>	RAUN2	MF	Bas, 3-lobed, long-petioled lvs; 1 small yellow fl/stem
CGJ	<i>Ranunculus verecundus</i>	RAVE	LF	3-lobed, toothed lvs on long petioles; yellow fl spike
CGJ	<i>Rhamnus alnifolia</i>	RHAL2	MS	Alt, oval, serrate leaves; flowers and blue frts at axils
FCH	<i>Rhamnus purshiana</i>	RHPU	TS	Large, oval, serrate lvs; green flowers & black fruits
FCH	<i>Rhus glabra</i>	RHGL	MS	Pinnately compound leaves; yellow flowers; red fruits
FCH	<i>Ribes cereum</i>	RICE	MS	Spineless; red fruits; 3-5 lobed lvs; tub fls; open sites
UMA	<i>Ribes cruentum</i>	RICR	MS	Nodal spines; white, tub fls; spiny red frts; open sites
UMA	<i>Ribes inerme</i>	RIIN	MS	Spiny; white, tubular flowers; purple fruits; dry sites
CGJ	<i>Ribes hudsonianum</i>	RIHU	MS	Spineless; sticky leaves; white flowers; black fruits
FCH	<i>Ribes lacustre</i>	RILA	MS	Spiny; red, saucer flowers; purple fruits; wet sites
FCH	<i>Ribes montigenum</i>	RIMO	MS	Spiny; sticky leaves; red flowers; bristly, red fruits

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FCH	<i>Ribes viscosissimum</i>	RIVI	MS	Spineless; sticky, 3-5 lobed lvs; tub fls; black fruits
UMA	<i>Rigiopappus leptocladus</i>	RILE	LF	Small, annual forb in Aster family with yellow ray flowers
UMA	<i>Rorippa curvisiliqua</i>	ROCU	LF	Shallowly-lobed lvs; yellow fls; curved sil; moist area
UMA	<i>Rorippa nasturtium-aquaticum</i>	RONA	LF	Oval, pinn or entire lvs; white flowers; flat sil; floating
UMA	<i>Rorippa sinuata</i>	ROSI2	LF	Deeply-lobed leaves; yellow fls; thick sil; moist sites
FCH	<i>Rosa gymnocarpa</i>	ROGY	LS	5 to 9 small leaflets; thorny internodes; bald hips
FCH	<i>Rosa nutkana</i>	RONU	MS	Biggest fls of our roses; nodal thorns only; round hip
CGJ	<i>Rosa woodsii</i>	ROWO	MS	Small lfts; nodal thorns; clustered fls; hips with calyx
UMA	<i>Rubus idaeus</i>	RUID	LS	3-7 oval, toothed, pointed lfts; red fruit; small prickles
UMA	<i>Rubus leucodermis</i>	RULE	MS	3-5 oval, serr lfts; stout, hooked prickles; purple frts
FCH	<i>Rubus parviflorus</i>	RUPA	MS	Big, 5-lobed lvs; white, 5-petal fls; red frts; unarmed
FCH	<i>Rudbeckia occidentalis</i>	RUOC	TF	Big, oval, alt lvs with toothed edges; rayless black fls
UMA	<i>Rumex acetosa</i>	RUAC2	MF	Oblong, trian-lobed leaves; red fls; papery frt; weedy
UMA	<i>Rumex acetosella</i>	RUAC	LF	Oblong, triangular-lobed lvs; red fls; widespread weed
UMA	<i>Rumex crispus</i>	RUCR	MF	Lan, long-petioled lvs; dense fl pan; papery frt; weed
UMA	<i>Rumex obtusifolius</i>	RUOB	TF	Big, oblong, wavy-edge lvs; green fls; moist-site weed
CGJ	<i>Rumex paucifolius</i>	RUPA2	MF	Basal, spat lvs; red fls in pan; moist, high elevations
UMA	<i>Rumex salicifolius</i>	RUSA	MF	Long, lan lvs; green/brown fls; branched; moist sites
UMA	<i>Salix amygdaloides</i>	SAAM2	TS	Smooth, lan lvs: pale below; yellowish twigs; low elev
DCP	<i>Salix bebbiana</i>	SABE	MS	Rare; oval, glaucous lvs; hairy twigs; forest openings
UMA	<i>Salix commutata</i>	SACO2	MS	Oval, gland-tooth, gray lvs; dark twigs; high wet area
UMA	<i>Salix exigua</i>	SAEX	TS	Long lan lvs: gray or smooth; low/medium elev (by ssp)
UMA	<i>Salix lasiandra</i>	SALA2	TS	Smooth, lan, green lvs: 2 glands at lf base; wet sites
UMA	<i>Salix lasiolepis</i>	SALA3	TS	Oblan, inrolled leaves: pale below; red twig; low elev
UMA	<i>Salix rigida</i>	SARI	TS	Ovate petioled lvs: pale below; slender twig; low elev
FCH	<i>Salix scouleriana</i>	SASC	TS	Oblanceolate lvs: pale below; hairy twig; moist upland
DCP	<i>Sambucus cerulea</i>	SACE	MS	Flat-topped fl cluster; blue fruits; comp lvs; low elev
FCH	<i>Sambucus racemosa</i>	SARA	MS	Opposite, comp leaves; red fruits; pyramidal fl cluster
UMA	<i>Sanguisorba occidentalis</i>	SAOC	MF	Pinn leaves: deeply-lobed lfts; green fls; mesic sites
UMA	<i>Sanguisorba sitchensis</i>	SASI	MF	Oblong, toothed leaflets; green fls; exerted stamens
UMA	<i>Sanicula graveolens</i>	SAGR	LF	Pinn, deeply-lobed lvs; yellow, umbel fls; prickly frts
CGJ	<i>Saxifraga arguta</i>	SAAR4	LF	Basal, circular, toothed lvs; white flowers; wet sites
UMA	<i>Saxifraga integrifolia</i>	SAIN	LF	Ovate, hairy leaves; hairy stem; pinkish fls; wet areas
UMA	<i>Saxifraga occidentalis</i>	SAOC3	LF	Ovate, long-petioled leaves; white flowers; moist sites
CGJ	<i>Saxifraga oregana</i>	SAOR	MF	Spatulate lvs; stout caudex; white flowers; wet sites
UMA	<i>Scirpus americanus</i>	SCAM	GL	Rhizome; trian stem; narrow lvs; sessile fls below tip
UMA	<i>Scirpus cespitosus</i>	SCCE2	GL	Tufted; scalelike leaves; 1 terminal flower spike; bog
UMA	<i>Scirpus microcarpus</i>	SCMI	GL	Tall; trian stem; umbrella-shaped fl spikes; wet sites
UMA	<i>Scirpus validus</i>	SCVA	GL	Tall; wide soft stems; brown fls in open infl; marshes
UMA	<i>Scrophularia lanceolata</i>	SCLA	TF	Big, trian, serrate lvs; yellow/purple fls; capsule fruits
CGJ	<i>Scutellaria angustifolia</i>	SCAN	LF	Rhizomes; oval, opp lvs; pairs of blue, lipped flowers
CGJ	<i>Scutellaria antirrhinoides</i>	SCAN2	LF	Similar to SCAN except flowers are less than 1" long
FCH	<i>Sedum lanceolatum</i>	SELA2	LF	Red-stemmed succulent with yellow, 5-petalled flowers
UMA	<i>Sedum leibergii</i>	SELE	LF	Alternate, short, lan or spat lvs; yellow fls; open sites
CGJ	<i>Sedum roseum</i>	SERO	LF	Oval, succulent lvs; maroon fls in term "ball"; riparian
CGJ	<i>Sedum stenopetalum</i>	SEST	LF	Creeping; keeled, awl-like lvs; yellow fls; dry slopes
UMA	<i>Selaginella densa</i>	SEDE3	LF	Creeping, mosslike form; bractlike cones; open areas

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CGJ	<i>Senecio canus</i>	SECA	LF	Clumpy; oval, hairy lvs with long petioles; yellow rays
UMA	<i>Senecio crassulus</i>	SECR	MF	Ellip/oblan, serrate lvs; black bract tips; open areas
UMA	<i>Senecio foetidus</i>	SEFO	MF	Spat/oblan lvs; 5 yellow rays; black tips; wet meadows
CGJ	<i>Senecio integerrimus</i>	SEIN	MF	Hairy, long-petioled lvs; yellow rays; short center fl
UMA	<i>Senecio jacobaea</i>	SEJA	MF	Oval, pinn-divided lvs; app 13 yellow rays; tansy weed
UMA	<i>Senecio pseud aureus</i>	SEPS	MF	Cordate, serr, long-petioled lvs; yellow rays; wet area
UMA	<i>Senecio serra</i>	SESE	TF	Lan, serrate leaves; yellow fls in flat-topped clusters
CGJ	<i>Senecio triangularis</i>	SETR	TF	Yellow rays; triangular, serrate leaves; riparian sites
DCP	<i>Shepherdia canadensis</i>	SHCA	LS	Opposite lvs; rusty beneath; orange fruits; PICO sites
FCH	<i>Sidalcea oregana</i>	SIOR	MF	Round, divided lvs; pink, 5-petalled fls; PIPO forests
DCP	<i>Silene douglasii</i>	SIDO2	LF	Opposite, lan lvs; sticky thruout; 10-veined, white fls
UMA	<i>Silene menziesii</i>	SIME	LF	Hairy, opp, lan lvs; white, tub fls w/lobed petal tips
UMA	<i>Silene oregana</i>	SIOR2	MF	Hairy; opp oblan leaves; pink fls; tub calyx; openings
UMA	<i>Silene scaposa</i>	SISC2	LF	Glands; lan/oblan lvs; white fls; tub calyx; dry PP type
UMA	<i>Silene scouleri</i>	SISC	MF	Glandular; oblan/spat leaves; greenish fls; open sites
UMA	<i>Sisymbrium altissimum</i>	SIAL	MF	Hairy weed; deeply-pinn lvs; yellow fls; long, linear sil
UMA	<i>Sisyrinchium angustifolium</i>	SIAN	MF	Narrow, grasslike leaves; blue 6-petalled fls; meadows
CGJ	<i>Sisyrinchium inflatum</i>	SIIN	LF	Blue, 6-petalled flowers; clasping leaves; wet areas
FCH	<i>Sitanion hystrix</i>	SIHY	BG	Short, bottlebrush seedhead; blue-green lvs; dry sites
DCP	<i>Smilacina racemosa</i>	SMRA	MF	Wide, alternate leaves; white fl raceme; moist sites
DCP	<i>Smilacina stellata</i>	SMST	LF	Narrow, alternate leaves; white flowers; mesic sites
UMA	<i>Solidago canadensis</i>	SOCA	MF	Lan, serrate leaves; yellow fls in trian infl; moist area
UMA	<i>Solidago missouriensis</i>	SOMI	MF	Lan/oblan leaves; yellow fls in curved infl; open area
UMA	<i>Solidago occidentalis</i>	SOOC2	MF	3-veined, lan/lin lvs; yellow fls; axillary infl; low elevs
UMA	<i>Sorbus scopulina</i>	SOSC2	TS	Leaflets pointed and fully serrate; white twig hairs
FCH	<i>Sorbus sitchensis</i>	SOSI	TS	Rounded lflets: serrate < 3/4 around; rusty twig hairs
UMA	<i>Spergularia rubra</i>	SPRU	LF	Spreading annual; short needlelike lvs; pink fls; weed
UMA	<i>Spiranthes romanzoffiana</i>	SPRO	OR	Leafy stem; crowded white fls in spiral rows; wet area
FCH	<i>Spirea betulifolia</i>	SPBE	LS	Rhizomes; oval, toothed lvs; white fls in flat umbels
CGJ	<i>Spraguea umbellata</i>	SPUM	LF	Small, oval leaves; white/pink fls in "balls"; dry sites
FCH	<i>Stellaria crispa</i>	STCR	LF	Trailing; opp, oval lvs; axil fls: no petioles; riparian
UMA	<i>Stellaria longipes</i>	STLO	LF	Stiff, lan leaves; square stems; white fls; moist sites
UMA	<i>Stellaria media</i>	STME	LF	Creeping weed; ovate, opposite leaves; white, axil fls
UMA	<i>Stellaria nitens</i>	STNI	LF	Slender annual; lan stem lvs; oval bas lvs; open sites
UMA	<i>Stipa lettermanii</i>	STLE	BG	Narrow, inrolled lvs; narrow pan; hairy long-awned fls
FCH	<i>Stipa occidentalis</i>	STOC	BG	Tall; narrow lvs and panicle; flower awns bent twice
UMA	<i>Stipa thurberiana</i>	STTH	BG	Narrow inrolled lvs; loose, erect pan; long hairy awns
DCP	<i>Streptopus amplexifolius</i>	STAM	MF	Bogs; zig-zag stem; hanging flowers and frts at axils
UMA	<i>Swertia perennis</i>	SWPE	LF	Spat, basal lvs; opp stem lvs; purple, 5-petalled fls
FCH	<i>Symphoricarpos albus</i>	SYAL	LS	Hollow pith; creeping; white frt; open fls; mesic area
FCH	<i>Symphoricarpos oreophilus</i>	SYOR	MS	Solid pith; clumpy growth habit; tub fls; open sites
FCH	<i>Synthyris reniformis</i>	SYRE	LF	Cordate, lobed leaves; long petioles; blue fls; scarce
UMA	<i>Tanacetum vulgare</i>	TAVU	MF	Pinn, fernlike lvs with pits; yellow disk fls only; weed
FCH	<i>Taraxacum officinale</i>	TAOF	LF	Yellow-flowered weed with deeply-lobed lvs; common
FCH	<i>Taxus brevifolia</i>	TABR	TS	Wet-site evergreen shrub: Long Creek RD; orange frt
FCH	<i>Thalictrum fendleri</i>	THFE2	MF	Compound lvs; looks like <i>Aquilegia</i> ; inconspicuous fls
UMA	<i>Thalictrum occidentale</i>	THOC	MF	3-5 lobed leaflets; frt w/3 ribs per side; purple stems

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UMA	<i>Thalictrum venulosum</i>	THVE	MF	3-5 lobed lfths; prominent veins; dense, compact infl
FCH	<i>Thermopsis montana</i>	THMO	MF	3-part leaves w/oval leaflets; yellow, pea fls; stipules
UMA	<i>Thlaspi alpestre</i>	THAL	LF	Almost identical to THFE except for smaller flowers
UMA	<i>Thlaspi arvense</i>	THAR	LF	Annual weed; lan/oblan stem lvs; small, white flowers
CGJ	<i>Thlaspi fendleri</i>	THFE	LF	Oval leaves; white, 4-petalled flowers; early bloomer
UMA	<i>Thysanocarpus curvipes</i>	THCU	MF	Lan/oblong stem lvs; small, purple fls; oval sil; weed
FCH	<i>Tiarella trifoliata</i>	TITR	LF	3-part, lobed lvs; white fls; wet bottoms; uncommon
FCH	<i>Tolmiea menziesii</i>	TOME	LF	Hairy; cordate toothed lvs; brown flowers; uncommon
DCP	<i>Tragopogon dubius</i>	TRDU	MF	Weed; yellow flowers; large, ball seedhead; narrow lvs
UMA	<i>Tragopogon pratensis</i>	TRPR4	MF	Very long, narrow lvs; chrome yellow rays; moist areas
FCH	<i>Trautvetteria caroliniensis</i>	TRCA3	MF	Palmate-lobed lvs; white fls; concave sepals; wet area
FCH	<i>Trientalis latifolia</i>	TRLA2	LF	4-8 lvs in terminal whorl; pink, 6-petal fls; ABCO zone
UMA	<i>Trifolium cyathiferum</i>	TRCY	LF	3 oblan leaflets; white/pink fls; small stipules; weed
CGJ	<i>Trifolium eriocephalum</i>	TRER	MF	3 lanceolate lfths; long stipules; red flowers; dry sites
UMA	<i>Trifolium hybridum</i>	TRHY	LF	3 oval lfths; white/red fls; flowers pinker than TRRE
FCH	<i>Trifolium longipes</i>	TRLO	LF	Trailing; 3 ovate lfths; term, pink/purple fls; meadows
FCH	<i>Trifolium macrocephalum</i>	TRMA	LF	Hairy; 5 to 9 leathery leaflets; pink flowers; dry sites
UMA	<i>Trifolium microcephalum</i>	TRMI	LF	Creeping; 3 oblan, serr lfths; white/pink fls; meadows
FCH	<i>Trifolium plumosum</i>	TRPL	MF	Hairy; 3 linear leaflets; white/pink "cushion" flowers
CGJ	<i>Trifolium pratense</i>	TRPR	MF	Hairy stems; 3 ovate leaflets; red cushion fls; weedy
UMA	<i>Trifolium repens</i>	TRRE	LF	3 round serrate leaflets; white flowers; creeping weed
UMA	<i>Trifolium variegatum</i>	TRVA	LF	Oblan, serrate lfths; purple fls; big involucre; meadow
UMA	<i>Trillium ovatum</i>	TROV	LF	3 big, oval, whorled lvs; white, 3-petal fls; moist area
UMA	<i>Trillium petiolatum</i>	TRPE	LF	3 oval, long-petioled lvs; purple, axil fls; moist areas
FCH	<i>Trisetum spicatum</i>	TRSP	BG	Short, hairy lvs; bristly panicle w/awned fls; montane
UMA	<i>Trisetum wolfii</i>	TRWO	BG	Tall; flat, narrow lvs; narrow pan; no awns; wet sites
UMA	<i>Triticum aestivum</i>	TRAE	BG	Cultivated wheat; tall; wide leaves; awned or awnless
UMA	<i>Typha latifolia</i>	TYLA	TF	Aquatic; linear leaves; brown "cattail" flower spikes
FCH	<i>Urtica dioica</i>	URDI	TF	Bristly stem; oval toothed lvs; axillary flowers; weed
UMA	<i>Vaccinium caespitosum</i>	VACA	LS	Toothed, oblan lvs; purple frt; gray stems; frost area
FCH	<i>Vaccinium deliciosum</i>	VADE	LS	Blue-green, oblan lvs; blue frts; red stems; high elev
FCH	<i>Vaccinium membranaceum</i>	VAME	LS	Big, pointed lvs; red or blue fruits; high, cool sites
FCH	<i>Vaccinium scoparium</i>	VASC	LS	Broomed habit; small lvs (<.5"); red fruits; high elevs
CGJ	<i>Valeriana edulis</i>	VAED	MF	Whorled, variable leaves; white, axillary fls; meadows
CGJ	<i>Valeriana occidentalis</i>	VAOC	MF	Oval, entire leaflets; white flower clusters; wet sites
UMA	<i>Valeriana scouleri</i>	VASC2	MF	Oval entire lfths (less than VAOC); white fls; wet areas
FCH	<i>Valeriana sitchensis</i>	VASI	MF	Coarse lvs w/3-5 segments; white tub fls; term "balls"
UMA	<i>Ventenata dubia</i>	VEDU	BG	Short narrow lvs; open panicle; short, bent awns; weed
DCP	<i>Veratrum californicum</i>	VECA	TF	To 6' tall; white fls; pleated lvs; wet disturbed areas
UMA	<i>Veratrum viride</i>	VEVI	TF	To 6' tall; yellow-green fls; big, wide leaves; riparian
UMA	<i>Verbascum blattaria</i>	VEBL	TF	Lobed, serr, bas lvs; small stem lvs; yellow fls; weed
FCH	<i>Verbascum thapsus</i>	VETH	TF	To 6' tall; yellow flowers; rough lvs; disturbed sites
CGJ	<i>Veronica americana</i>	VEAM	LF	Creeping; opposite, oval lvs; small blue fls; wet sites
UMA	<i>Veronica anagallis-aquatica</i>	VEAN	MF	Opp, elliptic, serr lvs; blue fls; axillary infl; wet areas
UMA	<i>Veronica arvensis</i>	VEAR	LF	Opposite, ovate, serr lvs; blue fls; term infl; weedy
UMA	<i>Veronica peregrina</i>	VEPE	LF	Lin/oblong, serr, opp lvs; incon white fls; wet sites
UMA	<i>Veronica serpyllifolia</i>	VESE	LF	Opp, ovate, serr leaves; blue fls; disturbed, wet area

WHO	SCIENTIFIC NAME	CODE	LF	KEY IDENTIFICATION CHARACTERISTICS
FCH	<i>Vicia americana</i>	VIAM	MF	Purple fls; 8-18 lfts; twining tendrils; jagged stipules
UMA	<i>Vicia hirsuta</i>	VIHI	MF	Slender weed; white or blue fls; 14-18 linear leaflets
UMA	<i>Vicia sativa</i>	VISA	MF	Purple flowers; 10-14 wide, oval leaflets; introduced
CGJ	<i>Viola adunca</i>	VIAD	SF	Blue flowers; oval lvs with wavy margins; moist sites
UMA	<i>Viola glabella</i>	VIGL	LF	Pointed, cordate, toothed lvs; yellow fls: purple veins
UMA	<i>Viola macloskeyi</i>	VIMA	LF	Cordate, wavy-edged lvs; white flowers: purple veins
UMA	<i>Viola montanensis</i>	VIMO	LF	Like VIAD, but taller and leaves are longer than broad
DCP	<i>Viola nuttallii</i>	VINU	LF	Yellow flowers; hairy, spatulate leaves; dry sites
UMA	<i>Viola orbiculata</i>	VIOR2	LF	Round, toothed leaves; yellow flowers: purple veins
UMA	<i>Viola palustris</i>	VIPA2	LF	Rhizomes; cord, wavy-edged lvs; white fls: blue backs
DCP	<i>Viola purpurea</i>	VIPU	LF	Yellow flowers; purple, fleshy leaves; high, moist sites
UMA	<i>Woodsia oregana</i>	WOOR	F	Low; narrow blades with rounded pinnae lobes
CGJ	<i>Wyethia amplexicaulis</i>	WYAM	MF	Yellow flowers; shiny, mules-ear leaves; dry sites
CGJ	<i>Wyethia helianthoides</i>	WYHE	MF	White flowers; moist, montane meadows; hairy leaves
UMA	<i>Xanthium strumarium</i>	XAST	TF	Big, 3-6 lobed lvs; cockleburs: stout, hooked prickles
UMA	<i>Zigadenus elegans</i>	ZIEL	LF	<i>Iris</i> -like leaves; 6 white petals: yellow spot at base
FCH	<i>Zigadenus paniculatus</i>	ZIPA	LF	Bulb; <i>Iris</i> -like lvs; white fls: open infl; long stamens
UMA	<i>Zigadenus venenosus</i>	ZIVE	LF	Bulb; <i>Iris</i> -like lvs; white fls: dense infl; long stamens

CODES AND ABBREVIATIONS

CODE	WHO (AUTHORITY)
CGJ	Species included on a "Blue Mountain Flora" list prepared by Charles G. Johnson, Jr., Area 3 ecologist.
DCP	Species identified or collected by David C. Powell during remeasurement of mixed-conifer inventory plots (1988-89) for an administrative study examining western spruce budworm impacts on mixed-conifer forest (Powell 1994). Most species determinations were made by using Hitchcock and Cronquist (1981), or by having professional botanists review collected voucher specimens and make species determinations from them.
FCH	Species included on a list prepared by Fred C. Hall after field sampling for R6 Area Guide 3-1 (Hall 1973).
UMA	Species included on R6 sensitive plant inventories for southern parts of Umatilla National Forest (southern portions of Umatilla NF, Heppner and North Fork John Day Ranger Districts, are similar to northern portions of Malheur NF, specifically the Bear Valley and Long Creek RDs). Umatilla NF plant lists were provided by Karl Urban, Forest Botanist, Umatilla National Forest, Supervisor's Office, Pendleton, Oregon.

CODE	LIFE FORM (LF)	CODE	LIFE FORM (LF)
T	Tree	TF	Tall Forb (over 3 feet tall)
LS	Low Shrub (1 to 3 feet tall)	OR	Orchid (Orchidaceae)
MS	Medium Shrub (3 to 10 feet tall)	F	Fern
TS	Tall Shrub (over 10 feet tall)	BG	Bunchgrass (tufted; caespitose)
LF	Low Forb (less than 1 foot tall)	RG	Rhizomatous Grass (sod-forming; creeping)
MF	Medium Forb (1 to 3 feet tall)	GL	Grass-like (sedges, rushes, etc.)

[Codes continued on next page.]

CODE	ABBREVIATION	CODE	ABBREVIATION
alt	alternate	lvs	leaves
ann	annual	oblan	oblanceolate
axil	axillary	occ	occasionally
bas	basal	opp	opposite
comp	compound	pan	panicle
elev(s)	elevation(s)	pet	petal(s)
ellip	elliptic	pinn	pinnate or pinnatifid
fl	flower	serr	serrate (toothed)
fld	flowered	sess	sessile (no petioles)
fls	flowers	sil	siliques or silicles
frt(s)	fruit(s)	spat	spatulate
infl	inflorescence	term	terminal
lan	lanceolate	trian	triangular
lf	leaf	tub	tubular
lft(s)	leaflet(s)	w/	with
lin	linear (very narrow)	w/o	without

REFERENCES

- Hall, F.C. 1973.** Plant communities of the Blue Mountains in eastern Oregon and southeastern Washington. R6 Area Guide 3-1. Portland, OR: USDA Forest Service, Pacific Northwest Region. 62 p. <https://archive.org/download/CAT91954348/CAT91954348.pdf>
- Hitchcock, C.L.; Cronquist, A. 1981.** Flora of the Pacific Northwest. Fifth printing. Seattle, WA: University of Washington Press. 730 p. isbn:0-295-95273-3
- Johnson, C.G., Jr.; Clausnitzer, R.R. 1992.** Plant associations of the Blue and Ochoco Mountains. Tech. Pub. R6-ERW-TP-036-92. Portland, OR: USDA Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 164 p. [Plant-Associations-of-the-blue-and-Ochoco-Mountains](#)
- Powell, D.C. 1994.** Effects of the 1980s western spruce budworm outbreak on the Malheur National Forest in northeastern Oregon. Tech. Pub. R6-FI&D-TP-12-94. Portland, OR: USDA Forest Service, Pacific Northwest Region. 176 p. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5358589.pdf

APPENDIX: SILVICULTURE WHITE PAPERS

White papers are internal reports, and they are produced with a consistent formatting and numbering scheme – all papers dealing with Silviculture, for example, are placed in a silviculture series (Silv) and numbered sequentially. Generally, white papers receive only limited review and, in some instances pertaining to highly technical or narrowly focused topics, the papers may receive no technical peer review at all. For papers that receive no review, the viewpoints and perspectives expressed in the paper are those of the author only, and do not necessarily represent agency positions of the Umatilla National Forest or the USDA Forest Service.

Large or important papers, such as two papers discussing active management considerations for dry and moist forests (white papers Silv-4 and Silv-7, respectively), receive extensive review comparable to what would occur for a research station general technical report (but they don't receive blind peer review, a process often used for journal articles).

White papers are designed to address a variety of objectives:

- (1) They guide how a methodology, model, or procedure is used by practitioners on the Umatilla National Forest (to ensure consistency from one unit, or project, to another).
- (2) Papers are often prepared to address ongoing and recurring needs; some papers have existed for more than 20 years and still receive high use, indicating that the need (or issue) has long standing – an example is white paper #1 describing the Forest's big-tree program, which has operated continuously for 25 years.
- (3) Papers are sometimes prepared to address emerging or controversial issues, such as management of moist forests, elk thermal cover, or aspen forest in the Blue Mountains. These papers help establish a foundation of relevant literature, concepts, and principles that continuously evolve as an issue matures, and hence they may experience many iterations through time. [But also note that some papers have not changed since their initial development, in which case they reflect historical concepts or procedures.]
- (4) Papers synthesize science viewed as particularly relevant to geographical and management contexts for the Umatilla National Forest. This is considered to be the Forest's self-selected 'best available science' (BAS), realizing that non-agency commenters would generally have a different conception of what constitutes BAS – like beauty, BAS is in the eye of the beholder.
- (5) The objective of some papers is to locate and summarize the science germane to a particular topic or issue, including obscure sources such as master's theses or Ph.D. dissertations. In other instances, a paper may be designed to wade through an overwhelming amount of published science (dry-forest management), and then synthesize sources viewed as being most relevant to a local context.
- (6) White papers function as a citable literature source for methodologies, models, and procedures used during environmental analysis – by citing a white paper, specialist reports can include less verbiage describing analytical databases, techniques, and so forth, some of which change little (if at all) from one planning effort to another.
- (7) White papers are often used to describe how a map, database, or other product was developed. In this situation, the white paper functions as a 'user's guide' for the new product. Examples include papers dealing with historical products: (a) historical fire extents for the Tucannon watershed (WP Silv-21); (b) an 1880s map developed from General Land Office survey notes (WP Silv-41); and (c) a

description of historical mapping sources (24 separate items) available from the Forest's history website (WP Silv-23).

The following papers are available from the Forest's website: [Silviculture White Papers](#)

Paper #	Title
1	Big tree program
2	Description of composite vegetation database
3	Range of variation recommendations for dry, moist, and cold forests
4	Active management of Blue Mountains dry forests: Silvicultural considerations
5	Site productivity estimates for upland forest plant associations of Blue and Ochoco Mountains
6	Blue Mountains fire regimes
7	Active management of Blue Mountains moist forests: silvicultural considerations
8	Keys for identifying forest series and plant associations of Blue and Ochoco Mountains
9	Is elk thermal cover ecologically sustainable?
10	A stage is a stage is a stage...or is it? Successional stages, structural stages, seral stages
11	Blue Mountains vegetation chronology
12	Calculated values of basal area and board-foot timber volume for existing (known) values of canopy cover
13	Created opening, minimum stocking, and reforestation standards from Umatilla National Forest Land and Resource Management Plan
14	Description of EVG-PI database
15	Determining green-tree replacements for snags: A process paper
16	Douglas-fir tussock moth: A briefing paper
17	Fact sheet: Forest Service trust funds
18	Fire regime condition class queries
19	Forest health notes for an Interior Columbia Basin Ecosystem Management Project field trip on July 30, 1998 (handout)
20	Height-diameter equations for tree species of Blue and Wallowa Mountains
21	Historical fires in headwaters portion of Tucannon River watershed
22	Range of variation recommendations for insect and disease susceptibility
23	Historical vegetation mapping
24	How to measure a big tree
25	Important Blue Mountains insects and diseases
26	Is this stand overstocked? An environmental education activity
27	Mechanized timber harvest: Some ecosystem management considerations
28	Common plants of south-central Blue Mountains (Malheur National Forest)
29	Potential natural vegetation of Umatilla National Forest
30	Potential vegetation mapping chronology
31	Probability of tree mortality as related to fire-caused crown scorch
32	Review of "Integrated scientific assessment for ecosystem management in the interior Columbia basin, and portions of the Klamath and Great basins" – Forest vegetation
33	Silviculture facts

Paper #	Title
34	Silvicultural activities: Description and terminology
35	Site potential tree height estimates for Pomeroy and Walla Walla Ranger Districts
36	Stand density protocol for mid-scale assessments
37	Stand density thresholds as related to crown-fire susceptibility
38	Umatilla National Forest Land and Resource Management Plan: Forestry direction
39	Updates of maximum stand density index and site index for Blue Mountains variant of Forest Vegetation Simulator
40	Competing vegetation analysis for southern portion of Tower Fire area
41	Using General Land Office survey notes to characterize historical vegetation conditions for Umatilla National Forest
42	Life history traits for common Blue Mountains conifer trees
43	Timber volume reductions associated with green-tree snag replacements
44	Density management field exercise
45	Climate change and carbon sequestration: Vegetation management considerations
46	Knutson-Vandenberg (K-V) program
47	Active management of quaking aspen plant communities in northern Blue Mountains: Regeneration ecology and silvicultural considerations
48	Tower Fire...then and now. Using camera points to monitor postfire recovery
49	How to prepare a silvicultural prescription for uneven-aged management
50	Stand density conditions for Umatilla National Forest: A range of variation analysis
51	Restoration opportunities for upland forest environments of Umatilla National Forest
52	New perspectives in riparian management: Why might we want to consider active management for certain portions of riparian habitat conservation areas?
53	Eastside Screens chronology
54	Using mathematics in forestry: An environmental education activity
55	Silviculture certification: Tips, tools, and trip-ups
56	Vegetation polygon mapping and classification standards: Malheur, Umatilla, and Wallowa-Whitman National Forests
57	State of vegetation databases for Malheur, Umatilla, and Wallowa-Whitman National Forests
58	Seral status for tree species of Blue and Ochoco Mountains

REVISION HISTORY

June 1990: First version of this white paper was prepared in January 1989 while the author was employed as Assistant Forest Silviculturist for Malheur National Forest in John Day, Oregon.

It was used during field sampling for an administrative study examining spruce budworm effects (results presented in Powell 1994).

January 2017: Minor formatting and editing changes were made during this revision, including adding a white-paper header and assigning a white-paper number. An appendix was added describing a silviculture white paper system, including a list of available white papers. A short Introduction section was also added.

Note that all scientific plant names in this white paper correspond to what was being used in the late 1980s; no attempt was made to update names to a new nomenclature provided by the USDA's national PLANTS database application.